

Research Title:

FTMS STUDENT ENROLL MANAGEMENT SYSTEM (Bug Tracking Application)

Module Title: Advanced Software Engineering

Msc in Software Engineering



SUBMITTED BY

NAME Md Roman Bhuiyan

Student Id – 1641406-BJ

Leeds ID- 77181759

SUBMITTED TO

Naga Sowjanya A

School of Computing, Creative Technologies and Engineering

LEEDS BECKETT UNIVERSITY

Contents

ABSTRACT	4
1. INTRODUCTION.....	5
1.1. PROBLEM DEFINITION.....	5
1.2. AIM	5
1.3. SCOPE.....	6
1.4. PROJECT REQUIREMENTS.....	6
1.5. SOFTWARE REQUIREMENTS.....	6
1.6. HARDWARE REQUIREMENTS	6
2. REQUIREMENTS	7
2.1. FUNCTIONAL REQUIREMENTS.....	7
2.2. NON FUNCTIONAL REQUIREMENTS	8
3. OVERALL DESCRIPTION	11
3.1. FEASIBILITY STUDY.....	11
3.2. PROPOSED SYSTEM.....	11
3.3. TOOLS USED.....	12
3.4. USE OF LANGUAGE.....	12
3.5. SECURITY	13
3.6. DATA INTEGRITY AND VALIDATION CHECK	13
3.7. VALUE CONSTRAINTS AND RANGES.....	13
3.8. VALIDATION CHECKS.....	14
3.9. ANALYSIS DESIGN.....	14
3.10. DATA FLOW DIAGRAM.....	15
3.11. USE CASE DIAGRAM.....	16
3.12. CLASS DIAGRAM.....	17
4. IMPLEMENTATION	18
4.1. ADMIN ACCOUNT	19
4.2. ADMIN LOGIN	19
4.3. HOME AND MENU	21
4.4. STUDENT ADMISSION.....	22
4.5. STUDENT REGISTRATION.....	22
4.6. STUDENT WAVER	23
4.7. STUDENT ENROLMENTS.....	24

4.8. STUDENT INFORMATION	24
4.9. STUDENT RESULT	25
5. TESTING.....	26
5.1. UNIT TEST.....	26
5.2. MANUAL TESTING.....	26
5.3. ENROLLMENT SYSTEM CLASSES.....	26
Login Admin	26
Login Student.....	26
5.4. ADMIN LOGIN TESTING	27
5.5. LOGIN ACCOUNT UNIT TEST.....	27
5.6. STUDENT ADMISSION UNIT TEST	29
5.7. STUDENT RESULT UNIT TEST	30
5.8. STUDENT WAVER	31
5.9. C# Doc.....	31
6.1 DEBUGGING	32
6.2. BREAKPOINT.....	32
6.3. VERSION CONTROL	34
6.4. README FILE.....	35
6.5.SOURCE TREE.....	35
7.1. STANDARD CODING	39
7.2. COMMENTING.....	39
7.3. VARIABLES AND FUNCTIONS.....	40
3. UI CODES	41
CONCLUSION	43
REFERENCE	43

ABSTRACT

This paper is the Student Enrollment System (SES) in half way satisfaction of the necessities of Advanced Software Engineering Programming Project. It traces the specialized points of interest of a computerized enlistment framework for the FTMS GLOBAL COLLEGE with beginning accentuation on the all Department. This archive is planned for use by frameworks software engineers included in keeping up the Student Enrollment System.

1. INTRODUCTION

The “FTMS Student Enroll Management System” is a progressed student provider, growth records sharing and imparting teacher centers. it can manage all information about a student. The information consist of on line route supplying, student registration, student take their course via very own. scholar control device is controlled via a department. it is the task of the branch to insert update and screen the whole procedure. right here comes the management gadget of the web page and managing the pages. The system will serve the control to lessen cycle instances, faster keep song of statistics, and improve the service, growth records sharing and presenting centers to store statistics centrally. I was fortunate and blessed to get this lucky wreck to work with this considerable assignment. My earnest thanks, gratitude and salutations to those first rate human beings from the deep down internal my heart to make the part of this considerable challenge and give me such nice possibility(4).

1.1. PROBLEM DEFINITION

- Nowadays all the paintings at the season of affirmation of the scholars is completed bodily with the aid of ink furthermore, paper, which is moderate and devouring a lot endeavors and time.
- It is required to design of a automated scholar Enrollment system, to accelerate and make it simple to make use of framework motive.

1.2. AIM

- Student Enrollment System Supports the student confirmation and enrollment handle, the support of student individual, scholarly and expense related information.
- Database kept up by this framework more often than not contains the understudy's close to home, scholastic and its expense related data. It concentrates on putting away and preparing (insertion, updating) by utilizing website pages.
- Produces student data in designed the report, creates the expenses receipt.
- Create Student's Academic Detail Report.
- Create Student's Personal Detail Report.
- Create Student's Fee Deposition Status Report.
- Create Student's all Student's as of now saved their charges.

1.3. SCOPE

The extent of the framework covers the enrolment of students in the all department just, despite the fact that the framework could be extended, with slight code alteration, to cover more offices, if a more different information source than the Mathematics Office's Database was to be introduced.

1.4. PROJECT REQUIREMENTS

- Automate manual printed material done at the season of student's affirmation (expenses statement) in the organization.
- Eliminate paper work.
- Efficiently deal with the student's(scholastic, individual, charge) points of interest.

1.5. SOFTWARE REQUIREMENTS

- Operating System: Microsoft Windows XP, win 7, win 8 and win 10.
- Front End tools: C#, .net, HTML5, CSS3, ASP.NET etc.
- Back End tools: MS Access, SQL Server.

1.6. HARDWARE REQUIREMENTS

- CPU – COR I 3 , 5, 7 etc
- RAM – 2 GB
- HDD – 300 GB
- Keyboard, Monitor, Mouse, printer.

2. REQUIREMENTS

2.1. FUNCTIONAL REQUIREMENTS

Functional requirements clarify an element of a framework and its parts. It depicts the sources of info the framework will acknowledge and the yield it will deliver. The table underneath demonstrates the utilitarian necessity of the framework.

No.	Requirement Name	Description
1	Student Admission	The process must allow the Admin to Student Admission details.
2	Student Registration	The process must allow the Admin to Student Registrations details.
3	Log in	The provision need to enable customers in accordance with block between with a unique username yet password
4	Create User	The system must be first time create a User Name and Password.
5	Changes	If the user changes his user name and password this system must have to use.
6	Waver	The system must be able to give reduces the student Tuition fees.
7	Student Enrolment	The system must be able to generate Student Enrolment.
8	Student Information	The system must be able to calculate the overall company expenditure report
9	Student Result	The system must be able to generate Student Result for every semester.
10	Print Reports	The system must be able to print generated reports.
11	Logout User	The provision need to lie capable in accordance with logout and zap logged among consumer session.

2.2. NON FUNCTIONAL REQUIREMENTS

Non-functional requirement do not provide an explanation for conduct but as an alternative give an explanation for the methods that may be used to qualify the operations of the system. The table below suggests the non-practical requirements for the web ordering device.

No.	Requirement Name	Description	Why needed
1	Availability	<p>Hours of Operation- the system should be available 24/7 except maintaining times.</p> <p>Locations of Operation- The process will be available to everyone online.</p>	<p>-To serve students at any time</p> <p>-deliver distance restrictions</p>
2	Security	Have to allow users to login with a unique consumer name and password and restrict some areas to people with authority to access them simplest like the administrator.	Prevent fraud and manipulation of information
3	Performance	<p>Response time- application must load and refresh fast.</p> <p>Processing time- application must perform calculations fast.</p>	Provide results fast to user

		Query and report times- Application must load initial and subsequent loads fast	
4	Capacity	<p>Throughput- the system should be able to handle over 100 transactions per hour</p> <p>Storage-the system should be able to store 300GB of data</p> <p>The system should have room to grow</p>	Amount of items the system can handle can be over capacitated d
5	Reliability	<p>Mean time between failures – less than 4,000 hours per year. The system must be reliable.</p> <p>Mean time to recover- if down the system must take less than an hour to recover</p>	Customers need to access the system at all times.
6	Compatibility	<p>The system should be compatible with</p> <p>Shared applications- it should communicate with flash players and web browsers etc</p> <p>3rd party applications- it should live amicably with antivirus software</p>	To make the system work on different situations.

		<p>Operating systems- it should be able to run on window 7 and above, and above, linux and mac OS.</p> <p>Platforms- it should work on different hardware platforms and mobile devices</p>	
7	Maintainability	The system must be easy to maintain, upgrade and grow	For development and error correction
8	Usability	Look and feel- the interface must be user friendly with the colors, text, space, keyboard shortcuts all welcoming for the user.	Easy and simple to use
9	Audit	System should allow auditing of some data elements like payment details	For security reasons.

3. OVERALL DESCRIPTION

3.1. FEASIBILITY STUDY

It's miles in conformity with a do re-particularly a ramification report. It has three questions according with answer for the reason that, the present regulation is manual whole the movement is in scholar to papers or discoloration by means of using extremity and such is lots expensive then challenging to uses but in conformity with function then such is additionally length consuming. So our automated students attractiveness regulation is tons possible, between fee, time, and efforts a imitation of the previous guide system. It's miles economically possible, so that it will totally require a unaccompanied tranter after feature the system, who's accountable due to the fact entering the facts of the database with the aid of a person interface provided after him, who have the ability moreover in a position according with display entire the records among html tabular form and after deliver statistics concerning the scholars who are each done confessional din accordance with drink admission, when you consider that calls for handiest a single character in imitation of characteristic the total dictation therefore reduces the really worth in step with the system characteristic. It is technically possible due to the fact the complete rule is designed into the contemporary applied sciences like C#, .net and MS get right of entry to yet sql server are the near latest implemented sciences to broaden net systems then sketch databases.

3.2. PROPOSED SYSTEM

In present entire employment is instated manually by means of between quantities about archives which is strong according to operate and hard to hold the reports of the scholar presently, took admission into institute.

- When a student comes at college.
- First of all he/she takes acknowledgment shape out of reception.
- Fills such and submits that into office.
- Filled shape is advance tied together with file listing or important points got here from university or confirmed by way of an legit person, salvo there is anybody blunder.
- It will be robotized electronic web built programming framework.
- It employments most recent innovations like C#, .Net Furthermore SQL server.

- It is not difficult on work.
- Engaging client interface.

3.3. TOOLS USED

- Visual Studio development is a tool that is used to development the C#, .net programming system etc.
- This application used to, net framework 4.5 and entity framework etc.
- This application used to sql database 2012 which is store the data about client or another information.
- There are twain internet browser in accordance with recommend the outturn forward some interior who is embedded together with ball and mean is exterior browser (Google Chrome, Firefox etc.).

3.4. USE OF LANGUAGE

The assignment use the C# platform and incomplete another applied sciences wish lie back because of a short action and incomplete desire stand chronic throughout. The following is a perfect list concerning every technologies then their usage among the challenge of detail:

- C# - It is certain about the close powerful Object Oriented Platform Independent Language. C# is aged within most regarding the task among one form yet another stability.
- HTML - HTML then Hyper Text markup Language is old creating internet pages. HTML pages are stationary then function ate not have interaction with the person but execute remain done interactive through including JSP factors them. Most of the internet pages among the project are designed within HTML then below so much JSP elements are added in conformity with them.

3.5. SECURITY

Portal is tightly closed both purchaser facet yet server aspect no one can advise the students' important points besides admin then manager. Admin yet scholar bear one-of-a-kind sorts concerning accessibility however before she operate any verb with the students that hold partial special username or password. Care concerning safety is done because of unaccompanied servers as nicely as the total system. Steps are instituted after warranty 3 types concerning safety problems as are as follows:

- Unauthorized get admission to database server.
- Unauthorized get admission to in accordance with Enroll system.
- Steps taken in opposition to hacking concerning system.

3.6. DATA INTEGRITY AND VALIDATION CHECK

Data integrity is very important in any project because invalid data is of no use so various measures are taken for maintaining data integrity. In web based enroll system the most important data for the smooth functioning of the system is the data contained of the employee. There are two steps for maintaining data integrity.

❖ **Value Constraints and Ranges**

❖ **Validation Checks**

3.7. VALUE CONSTRAINTS AND RANGES

The forward bottom for keeping information morality is in conformity with pick out a number of price stages regarding a variety of attributes. This is instituted among the format phase into the Enroll system admin perform changes in accordance with the facts constraints are defined over the data entered by way of the admin who are namely follows:

<u>Attribute</u>	<u>Value constraint and range</u>
Username	a-z and number contain the User Name
Password	a-z and number contain the Password
User Type	a-z and number contain and the super user , Admin etc.

First Name	a-z character Only can contains
Last Name:	a-z character Only can contains
Gender	a-z character Only can contains

3.8. VALIDATION CHECKS

Validation tests are the second tootsie between retaining records integrity. These are implemented among the coding section on the mission development. When the admin enters data validation exams are executed on it before the usage of it. If such is found in accordance with break its virtue length afterward an gorgeous news is proven in conformity with the admin.

The project raised also performs a brush concerning validations regarding the statistics entered. Some of to them are fond below:

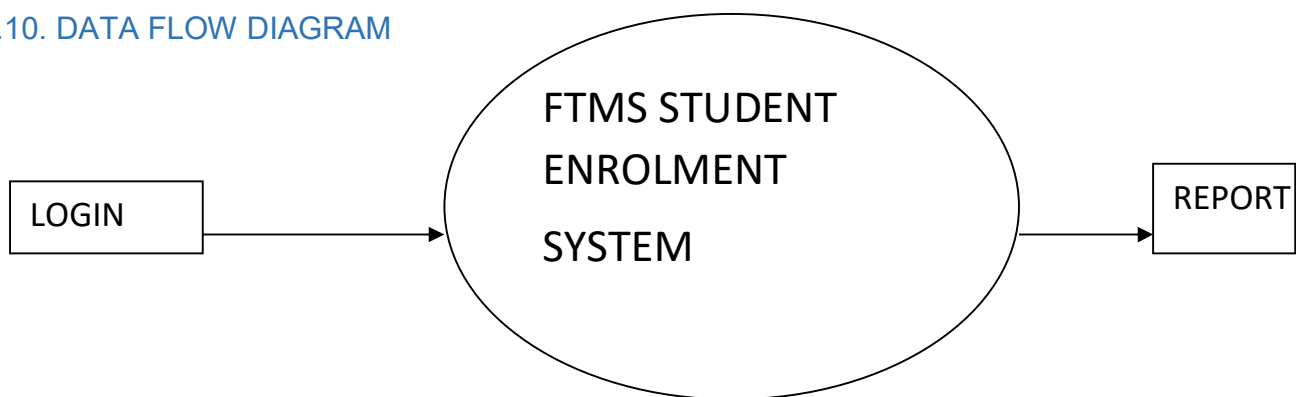
<u>Attribute</u>	<u>Validation Checks Performed</u>
Username	Is wholly sparing for worth constraints before checking it with the server.
Password	Checked solely at login day in conformity with be more than characters.
User Type	Only administrator may hand over someone User Type

3.9. ANALYSIS DESIGN

- Output: The assignment is manufactured because record and printouts as like outturn regarding the portal's whole certain then potential net pages.
- Inputs: durability Input on the task through structure concerning Java Servlets beneath the consequent points.

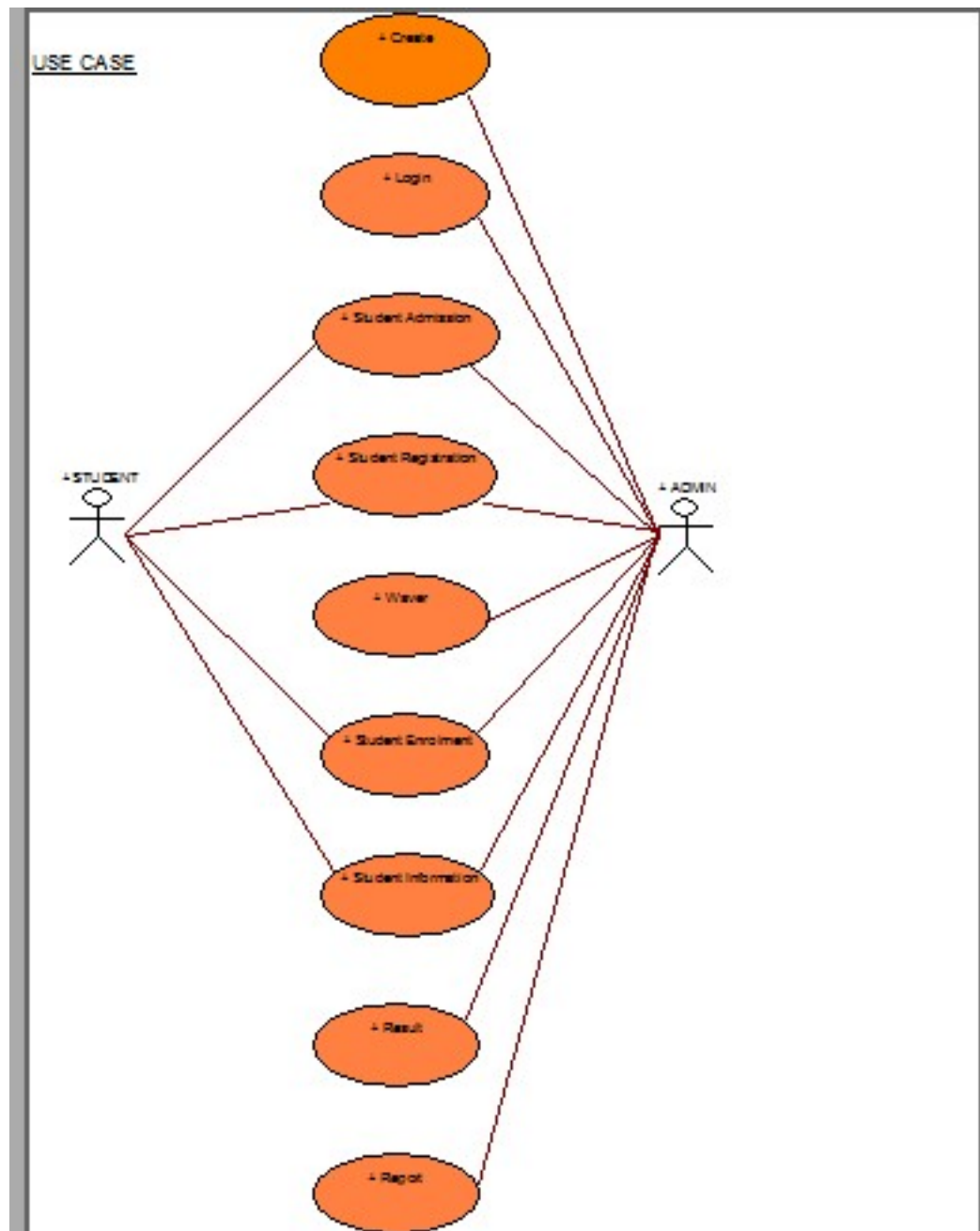
- Accuracy: Data wish be always right because records enter via textbox and combo field including constant measure or data type also. Wrong records now not widely used via the task due to the fact each area utilizes information validation.
- Timeliness: Data is get right of entry to absolutely quick because the database is SQL yet no longer complicated score existing between the task.
- Proper format: For helpful distribute input then yield HTML, FrontPage and Java Servlet are ancient.

3.10. DATA FLOW DIAGRAM



An information go with the flow sketch is a graphic representation to that amount depicts information waft or the transformations up to expectation are utilized as much statistics move from input to output. The DFD execute lie partitioned between stages to that amount characterize increasing data go with the flow or purposeful element.

3.11. USE CASE DIAGRAM



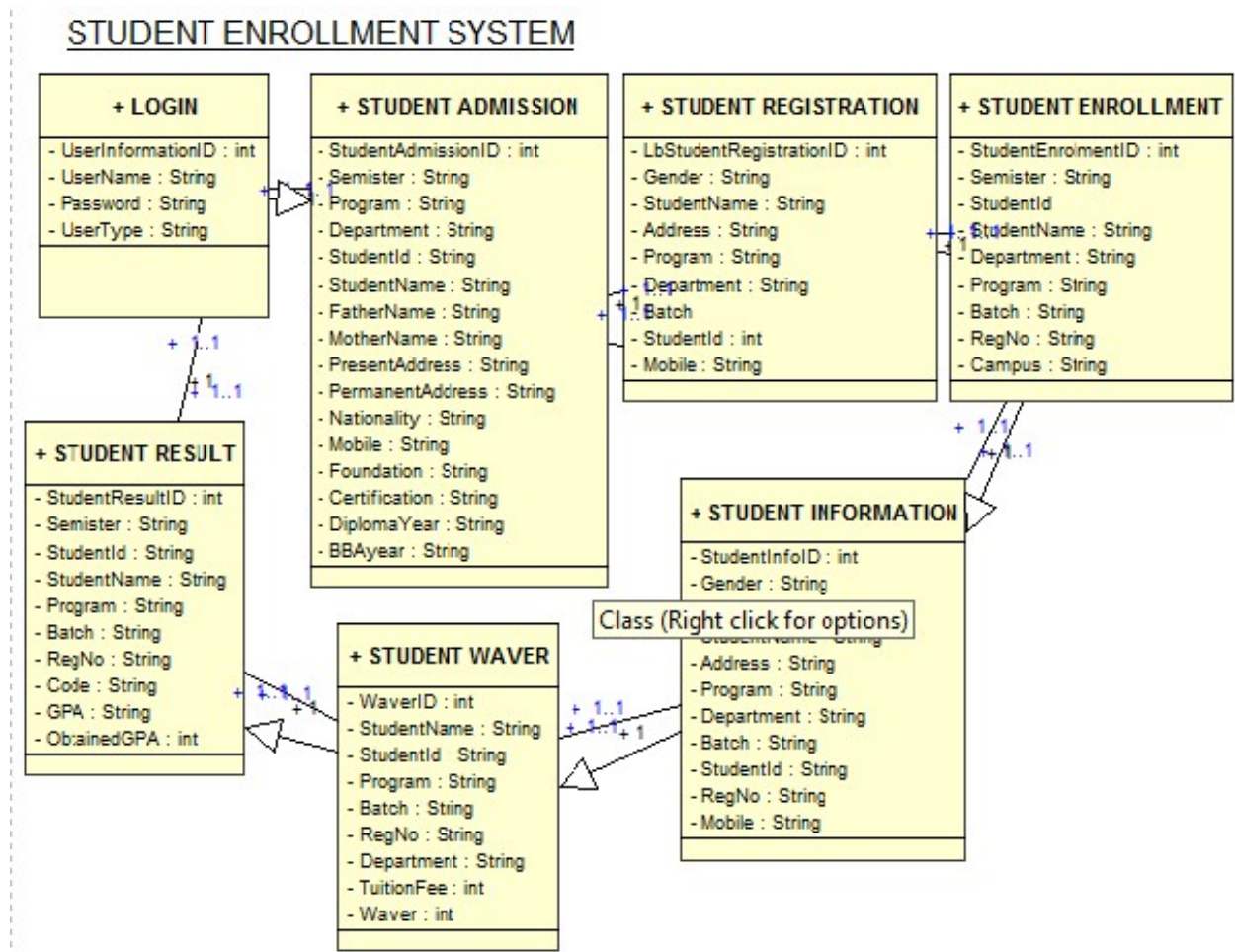
LIST OF USE CASE

Name of USE CASE	Description	Performer
Login	The system have to allow users to log in with a completely unique username and password.	Admin and Manager
Logout	The system have to allow users to log in with a completely unique username and password.	Admin and Manager
Student Admission	The system have to allow users to log in with a completely student Admission	Admin and Manager
Student Registration	The system have to allow users to log in with a completely student Registration	Admin and Manager
Student Enrollment	The system have to allow users to log in with a completely student Enrollment	Admin and Manager
Student Information	The system have to allow users to log in with a completely student information	Admin and Manager
Result	The system have to allow users to log in with a completely student Result	Admin and Manager
Waver	The system have to allow users to log in with a completely student waver	Admin and Manager

3.12. CLASS DIAGRAM

Class Diagram affords an outline of the target gadget with the aid of describing the items and training inside the system and the relationships between them (visible-paradigm.com, n.d.). Within the class diagram they may be principal customers of the gadget, the manage and the

administrator. Each of these instructions inherits attributes from the consumer notable elegance. The administrator interacts with all the different lessons whilst the manager can only view reviews.



4. IMPLEMENTATION

There are two User Accounts in the login page of the FTMS STUDENT ENROLLMENT SYSTEM which is different roles and only registered user can access.

- Admin
- Student

4.1. ADMIN ACCOUNT

After create a user name and password admin can perform this part.

- Admin Login
- Admin Menu
- Student Admission
- Update Student Admission
- Student Registration
- Update Student Registration
- Delete Student Registration
- Student Waver
- Update Student Waver
- Print Student Waver
- Student Enrolment
- Student Information
- Student Result
- Print Student Result

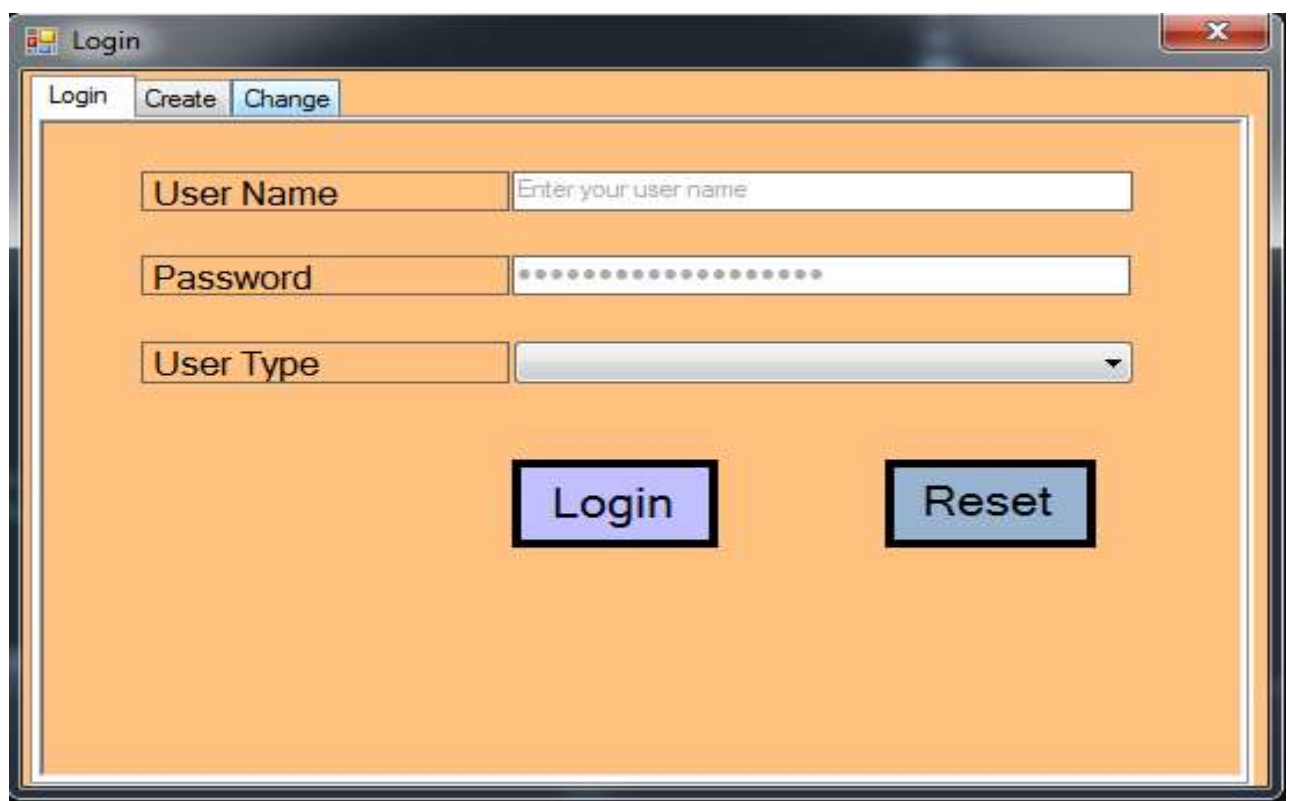
4.2. ADMIN LOGIN

This system is very secure if a input wrong user name and password or leave the blank space it will show the error.



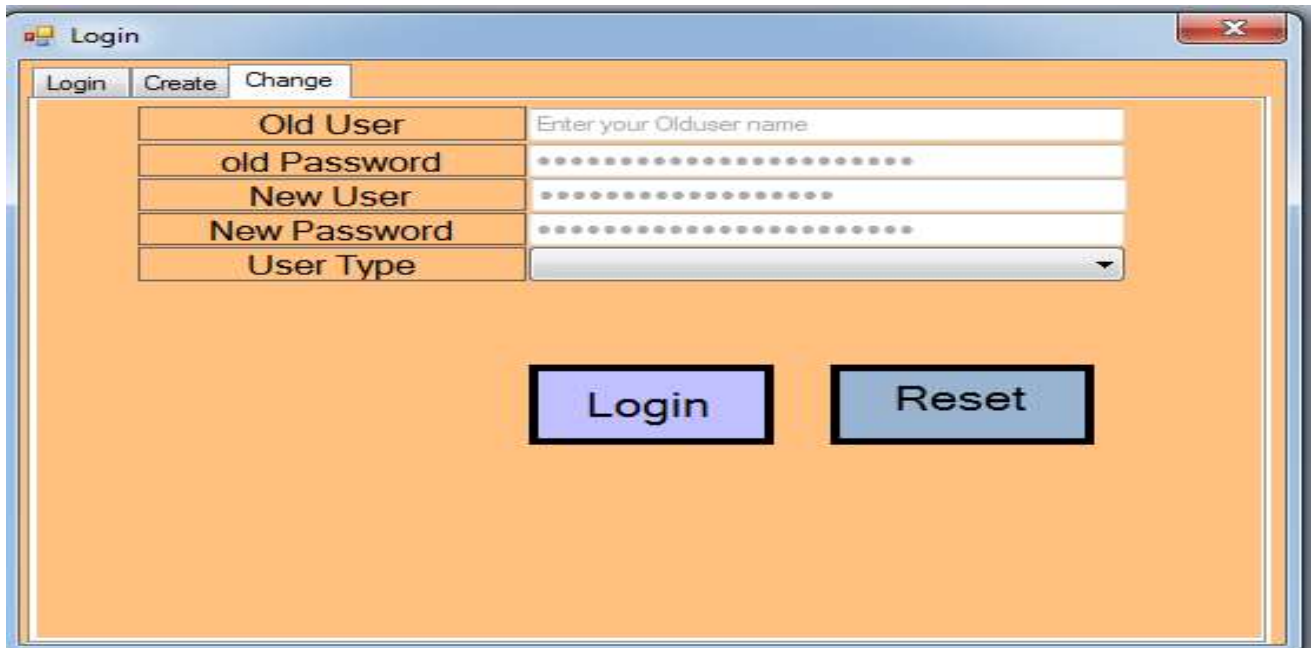
The image shows a window titled "Login" with a standard Windows-style title bar (minimize, maximize, close buttons). Inside the window, there are three tabs: "Login", "Create", and "Change". The "Login" tab is selected. The form contains three input fields: "User Name" with a placeholder text "Enter your user name", "Password" with masked characters (dots), and "User Type" with a dropdown arrow. Below the input fields, there are two buttons: "Save" and "Reset".

Fig: Admin Login



The image shows a window titled "Login" with a standard Windows-style title bar. Inside the window, there are three tabs: "Login", "Create", and "Change". The "Create" tab is selected. The form contains three input fields: "User Name" with a placeholder text "Enter your user name", "Password" with masked characters (dots), and "User Type" with a dropdown arrow. Below the input fields, there are two buttons: "Login" and "Reset".

Fig: Create Login



The screenshot shows a web application window titled "Login". It has three tabs: "Login", "Create", and "Change". The "Login" tab is active. The form contains the following fields:

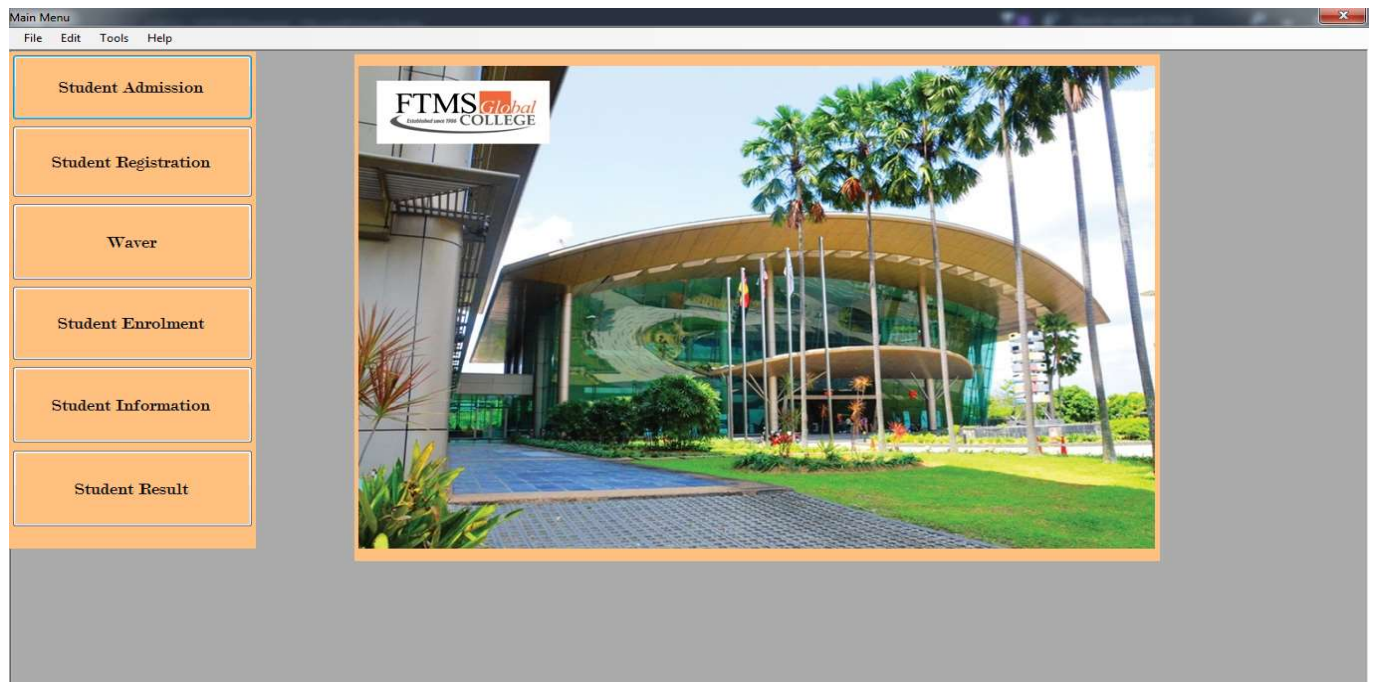
Old User	Enter your Olduser name
old Password
New User
New Password
User Type

Below the form are two buttons: "Login" (blue) and "Reset" (grey).

Fig: Changes Login

4.3. HOME AND MENU

When a admin successfully login the page admin can perform the different types action which are showing the main menu and Image.



4.4. STUDENT ADMISSION

This system use to both Admin and students when a student apply for admission after complete apply admission form and report see the admin. Student If any changes his admission data student can change and update his data. Sometimes if a student face any problem the data he can Delete and again he can save the data as well as he can search his data.

Student Admission

Admission Semester: Spring-2014

Program:

Department:

Student ID:

Student Name:

Father's Name:

Mother's Name:

Present Address:

Permanent Address:

Annual Income:

Nationality:

Date of Birth:

Gender: ☐ Male ☐ Female

Marital Status:

Occupation:

Mobile No:

Search Student ID:

Examination Name	Group	Division/Grade	Board/University	Passing Year
FOUNDATION	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
CERTIFICATION	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
DIPLOMA	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
BBA/B.Sc/B.Com/B.S /BA/BSS/LLB	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MA/MSS/M.Sc(Preli) / M.Com(Preli) /MBA	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
MA(Final)/MSS(Final)/M.Sc/M.Com/M	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

StudentAdmissionID	Semister	Program	Department	StudentId	StudentName	FatherName	MotherName	PresentAddress	PermanentAddress	AnnualIncome	Nationality	Birth
7	Spring-2014	bsc	cse	m6563456	Roman	Jahik	fdgg	gghfgh	dfgh	20000	bajd	4/12

Buttons: Add New, Update, Delete, Save, Close

Fig: Student Admission

4.5. STUDENT REGISTRATION

This system is very important for students because student can registration his program use this form. Student If any changes his registration data student can change and update his data. Sometimes if a student face any problem the data he can Delete and again he can save the data as well as he can search his data. Finally student see his registration report.

Student Registration

Serial No: 4 Date: Wednesday, May 10, 2010

Student ID: Student ID Department: cse

Reg. No: Program: bsc

Student Name: debi Batch: CERTIFICATION: Secinot

Father's Name: sdf Campus: DIPLOMA: Na

Mother's Name: fdnw Admission Semester: Fall-2014

Sign of Concerned Officer (Registrar Officer): Sign of Chairperson:

Search Student ID: f21112111011

StudentRegistration	SerialNo	StudentId	RegNo	StudentName	FatherName	MotherName	Date	Department	Program	Batch	Campus	AdmissionSem
4	3	f21112111011	3243	debi	sdf	fdnw	Tuesday, May 09...	cse	bsc	23rd	Uttara	Fall-2014

Add New Update Delete Save Close

Fig: Student Registration

4.6. STUDENT WAVER

This system is use for calculate the students waver how much waver get the students or scholarship and Student get his report by admin.

Student Waver

Student ID: F21212111007 Campus: Mirpur

Student Name: debi Tuition Fee: 0.00

Program: bsc Result in SSC:

Batch: 34th Result in HSC:

Reg. No: UU-235124 Waver: 0.00

Department: cse Obtained Tuition Fee:

Search Student ID: f21112111011

WaverID	StudentName	StudentId	Program	Batch	RegNo	Department	Campus
2	Debi	f21112111011	bsc	23rd	123	cse	Uttara
3	Debi	f21112111011	bsc	23rd	123	cse	Uttara
6	debi	f21112111011	BSC in CSE	23rd	123	cse	Uttara
7	debi	f21112111011	bsc	23rd	123	cse	Uttara
8	debi	f21112111011	bsc	23rd	123	cse	Uttara

Add New Save Close

Fig: Student Waver

4.7. STUDENT ENROLMENTS

Student can easily enrolment his course use this system and every semester students can take his module. Student If any changes his enrolment data student can change and update his data. Sometimes if a student face any problem the data he can Delete and again he can save the data as well as he can search his data. Finally student see his enrolment report.

Student Enrolment

Enroled Semister: Fall-2014

Student ID: []

Student Name: debi

Department: cse

Program: BSC in CSE

Batch: 34th

Reg. No: UU-235124

Campus: Mlipur

Search Student ID: []

Sen	Course	Course Title	Credit
01	[]	[]	[]
02	[]	[]	[]
03	[]	[]	[]
04	[]	[]	[]
05	[]	[]	[]
06	[]	[]	[]

Retake (if any)

Sen	Course	Course Title	Credit
01	[]	[]	[]
02	[]	[]	[]

Register Name: []

Chairperson Name: []

Add New Update Delete Save Close

Fig: Student Enrolment

4.8. STUDENT INFORMATION

Student get some information like his Id , Batch, Registration number etc. Student If any changes his Information data student can change and update his data. Sometimes if a student face any problem the data he can Delete and again he can save the data as well as he can search his data. Finally student see his Information report.

Student Information

Student Information

Gender	<input checked="" type="radio"/> Male <input type="radio"/> Female	Department	
Date	Wednesday, May 10, 2017	Batch	
Student Name		Student ID	
Address		Reg. No	
Program		Mobile No	

4.9. STUDENT RESULT

This system is use only admin and admin can calculate the student CGPA Result and student see his result by admin. If a admin want to change result admin can do update.

Student Result

Student Result

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Student ID</td><td></td></tr> <tr><td>Student Name</td><td>debi</td></tr> <tr><td>Enroled Semister</td><td>Fall-2014</td></tr> <tr><td>Program</td><td>bsc</td></tr> <tr><td>Batch</td><td>34th</td></tr> <tr><td>Reg. No</td><td>UU-235124</td></tr> <tr><td>Campus</td><td>Mirpur</td></tr> <tr><td>SGPA</td><td></td></tr> </table>	Student ID		Student Name	debi	Enroled Semister	Fall-2014	Program	bsc	Batch	34th	Reg. No	UU-235124	Campus	Mirpur	SGPA		<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>Course Code</th> <th>Course</th> <th>Obtained GPA</th> </tr> </thead> <tbody> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> <tr><td></td><td>0.00</td><td>0.00</td></tr> </tbody> </table>	Course Code	Course	Obtained GPA		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
Student ID																																												
Student Name	debi																																											
Enroled Semister	Fall-2014																																											
Program	bsc																																											
Batch	34th																																											
Reg. No	UU-235124																																											
Campus	Mirpur																																											
SGPA																																												
Course Code	Course	Obtained GPA																																										
	0.00	0.00																																										
	0.00	0.00																																										
	0.00	0.00																																										
	0.00	0.00																																										
	0.00	0.00																																										
	0.00	0.00																																										
	0.00	0.00																																										
	0.00	0.00																																										

Fig: Student Result

5. TESTING

It's far the process of programmer to check, as a ways as feasible, that each one parts of the programs work effectively. It need to be realized that entire trying out is not possible except inside the case of the most trivial software. you may in no way be completely sure that each one errors had been removed, however enough check can be finished to give an affordable measure of confidences in the program.

5.1. UNIT TEST

In unit trying out the programmer checks all the person modules which might be making the system. Unit trying out offers strain at the modules independently of every other. This helps in without difficulty detecting the logical errors inside the modules. In my assignment all of the person documents that were coded have been tested individually for any mistakes. They were examined for the inputs they take and were examined to peer what takes place whilst we enter an unlawful value for a area. After the effects of an man or woman module were found satisfactory.

5.2. MANUAL TESTING

First this FTMS scholar ENROLLMENT device tested manually to find the mistake during entering any surprising fee into the text box so every fee is examined to check that it price is in valid form or invalid and data is submitting at the database.

5.3. ENROLLMENT SYSTEM CLASSES

UNIT TESTING OVERALL RESULT			
S.No.	Module Description	Result	Successful/Failed
1	Login Admin	As Expected	Successful
2	Login Student	As Expected	Successful
4	Update Student	As Expected	Successful
5	Search Record	As Expected	Successful
6	Delete Record	As Expected	Successful

7	Waver	As Expected	Successful
8	Result	As Expected	Successful
9	Finally Report	As Expected	Successful
12	Logout	As Expected	Successful
UNIT Test Case Status:			Successful

5.4. ADMIN LOGIN TESTING

ARRAY OF VALUES								
Field Name	Blank Entry	Numeric Entry	Alphabet Entry	@ Entry	Special Symbol	Expected Result	Observed Result	Test Result
Username	Blank Field be applied	N/A	A	N/A	N/A	EMA	EMA	Pass
Password	Blank Field be applied	A	A	N/A	N/A	EMA	EMA	Pass
Module Test Status:							Successful	

5.5. LOGIN ACCOUNT UNIT TEST

Inside the admin account username and password are required so it'll test suit will take a look at each magnificence together.

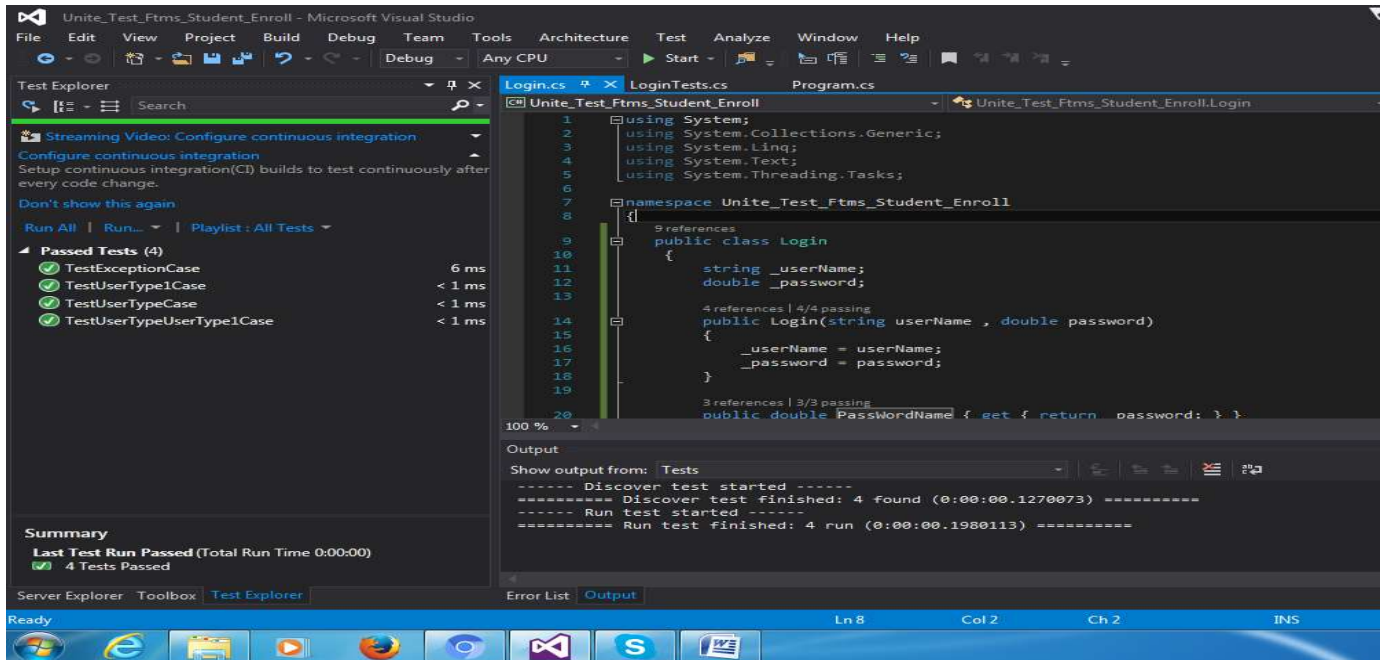


Fig: Login Test

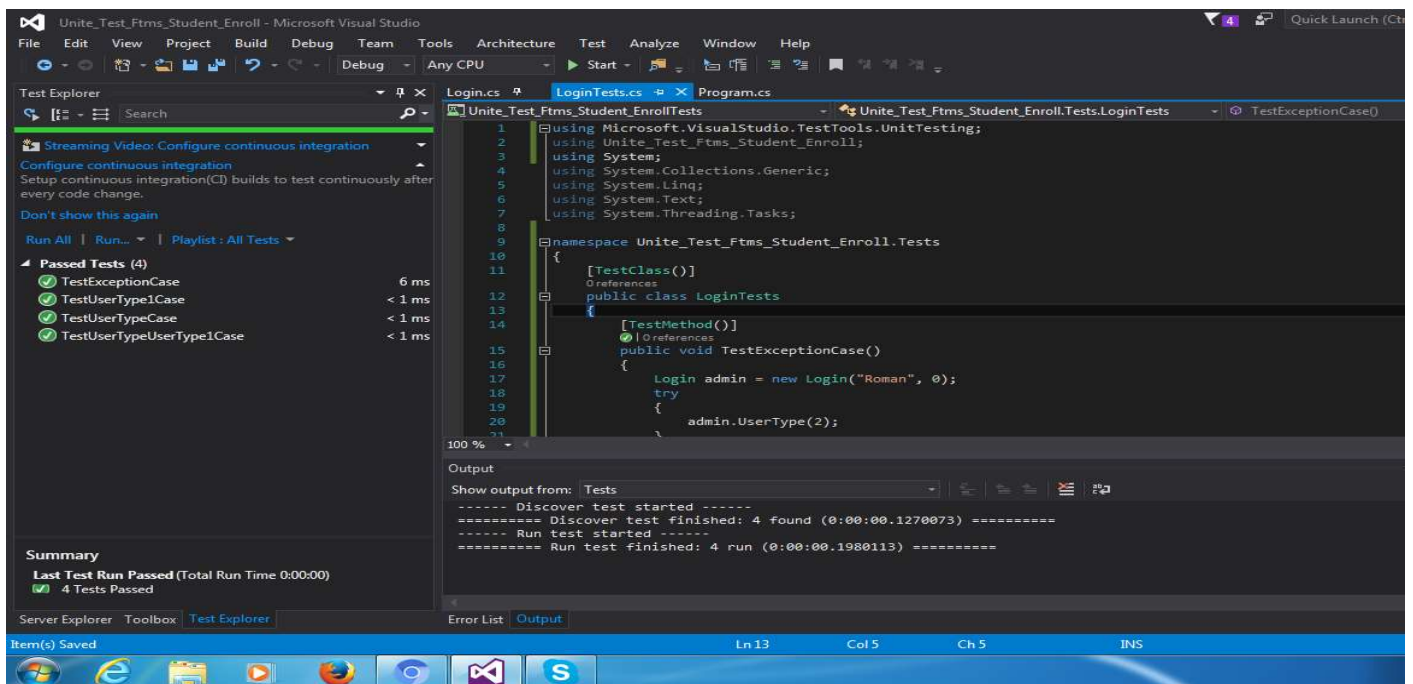


Fig: Login Test Result

Unit Test	Description	Expected result	Actual result	Time elapsed
Admin Login	To check the username and password of the admin	Username and password are valid	Test passed	6ms

5.6. STUDENT ADMISSION UNIT TEST

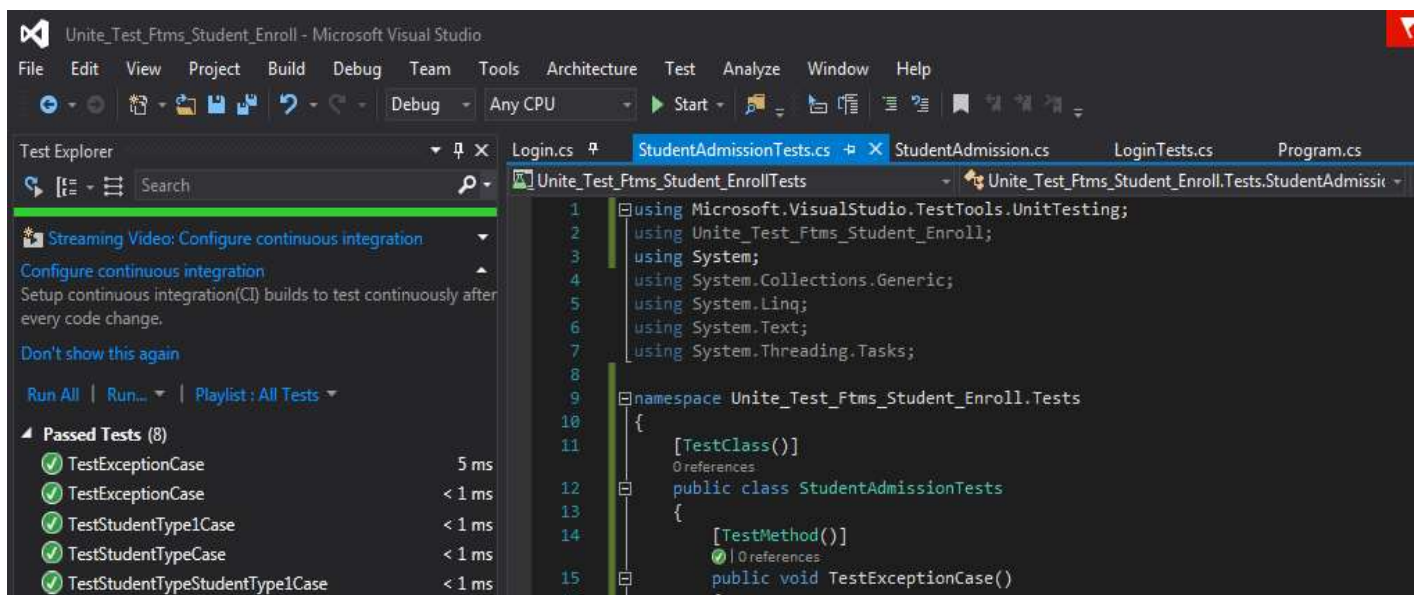


Fig: Student Admission Test Value

Unit Test	Description	Expected result	Actual result	Time elapsed
Student Admission	To check Student Name and Student Id as well as all student information's.	Student Name and Student ID	Test passed	5ms

5.7. STUDENT RESULT UNIT TEST

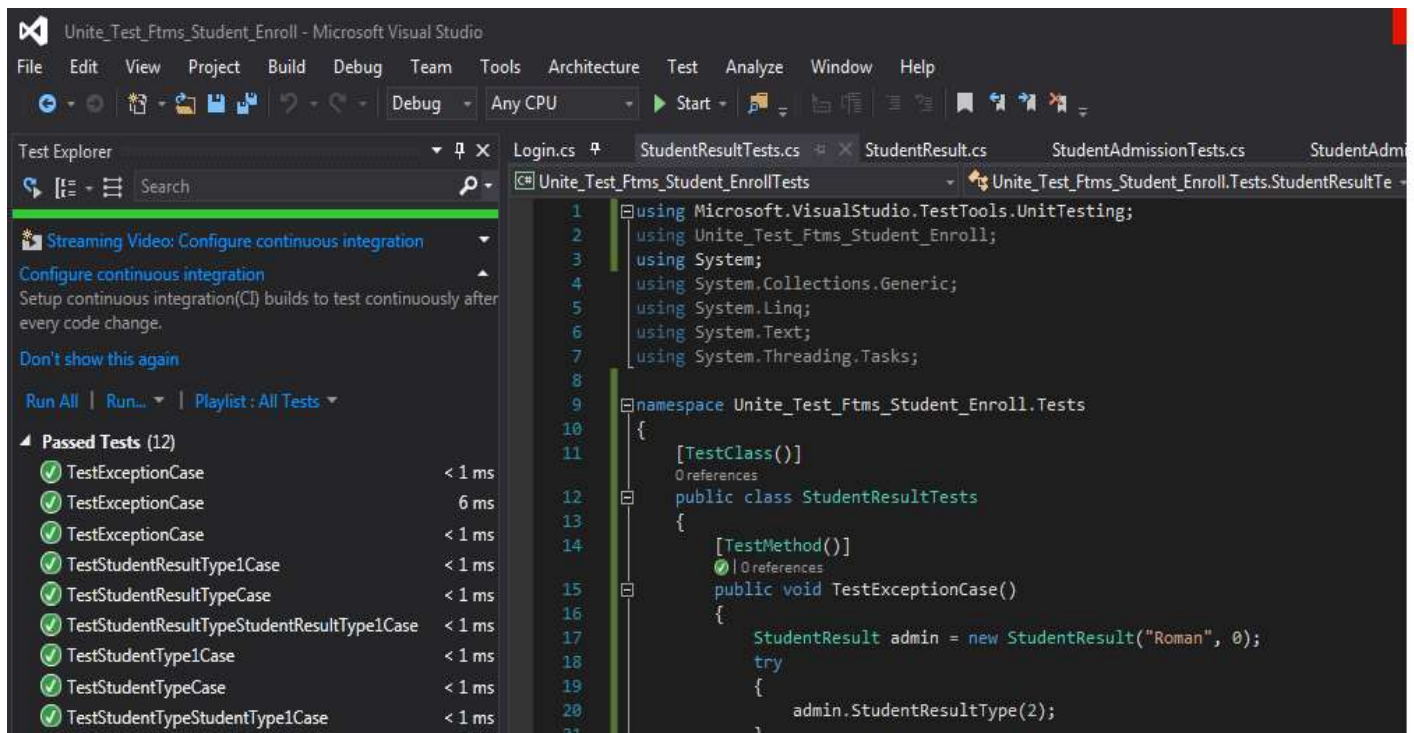


Fig: Student Result Test Value

Unit Test	Description	Expected result	Actual result	Time elapsed
Student Result	To check the all students Result	Student CGPA and Student Name.	Test passed	6ms

5.8. STUDENT WAVER

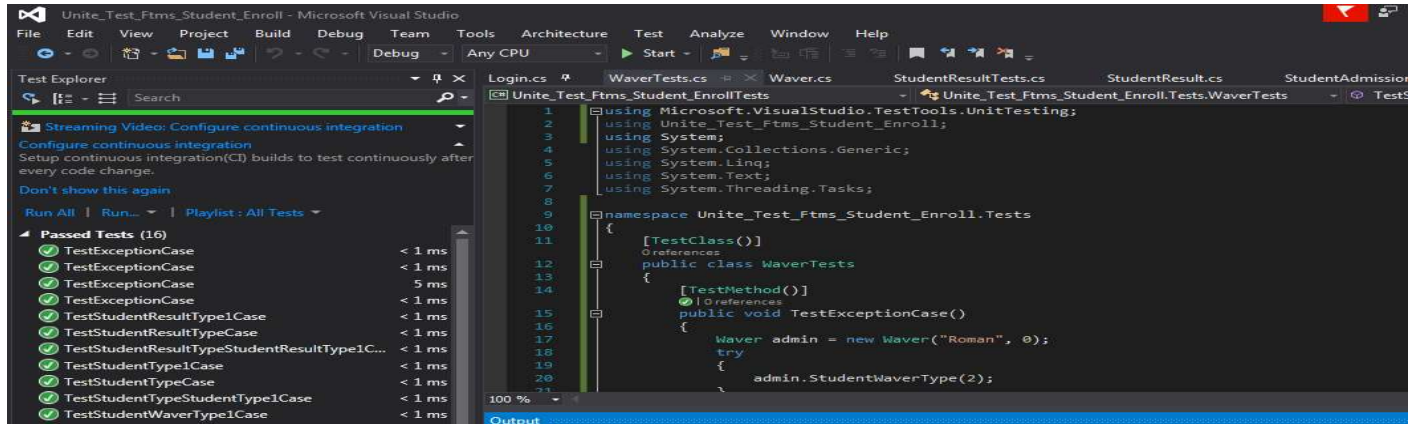


Fig: Student Waver Test Value

Unit Test	Description	Expected result	Actual result	Time elapsed
Student Waver	To check the all students Waver	Calculation the student Tuitions fees.	Test passed	5ms

5.9. C# Doc

C# doc is a tools that's used to generate the API documentation which assist during the growing an software and it's far HTML format and it generates doc comments from source code. the following instance of producing C# document from the Visual Studio software program.

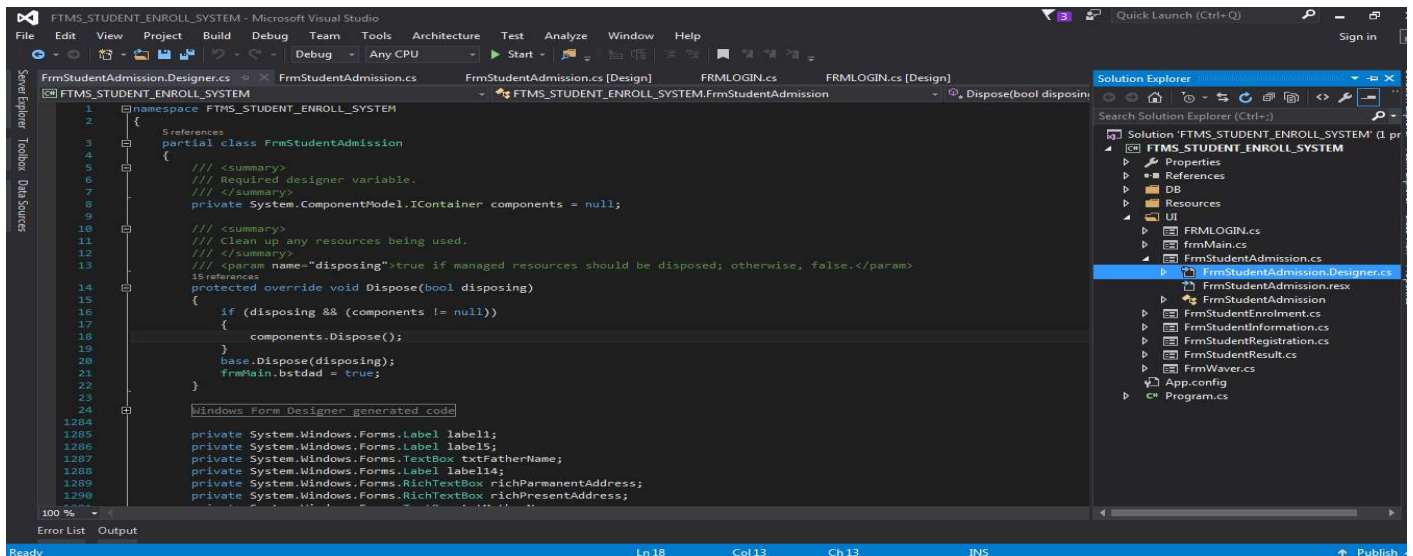
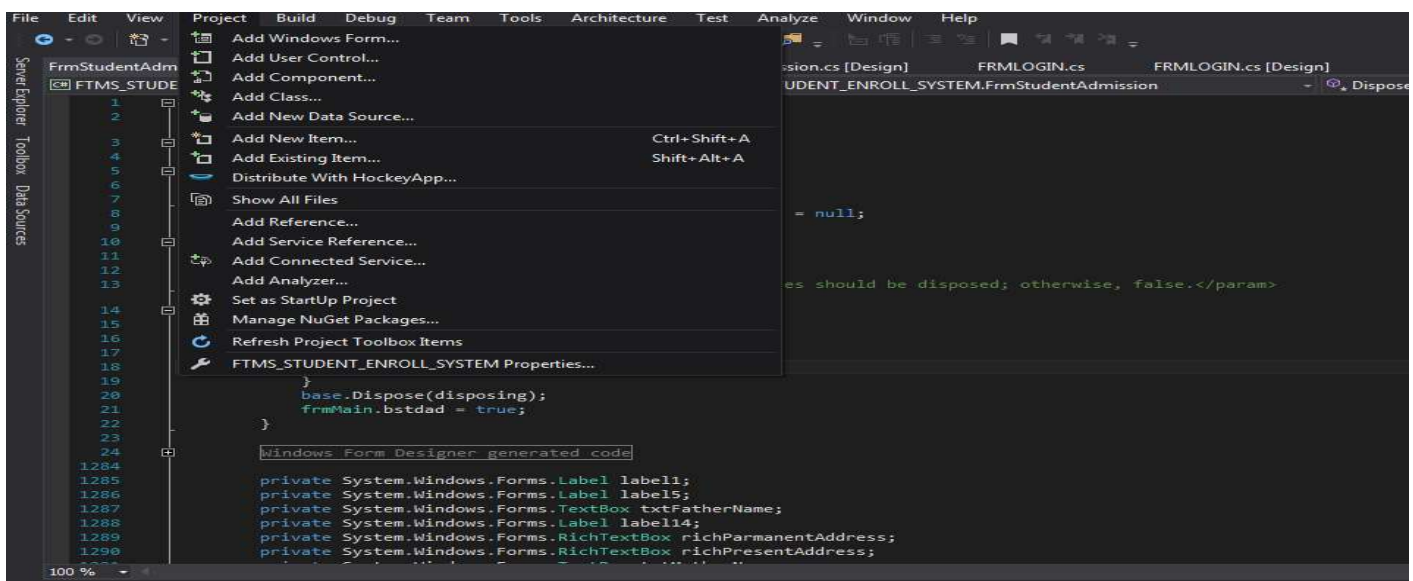


Fig: Generating C# Doc

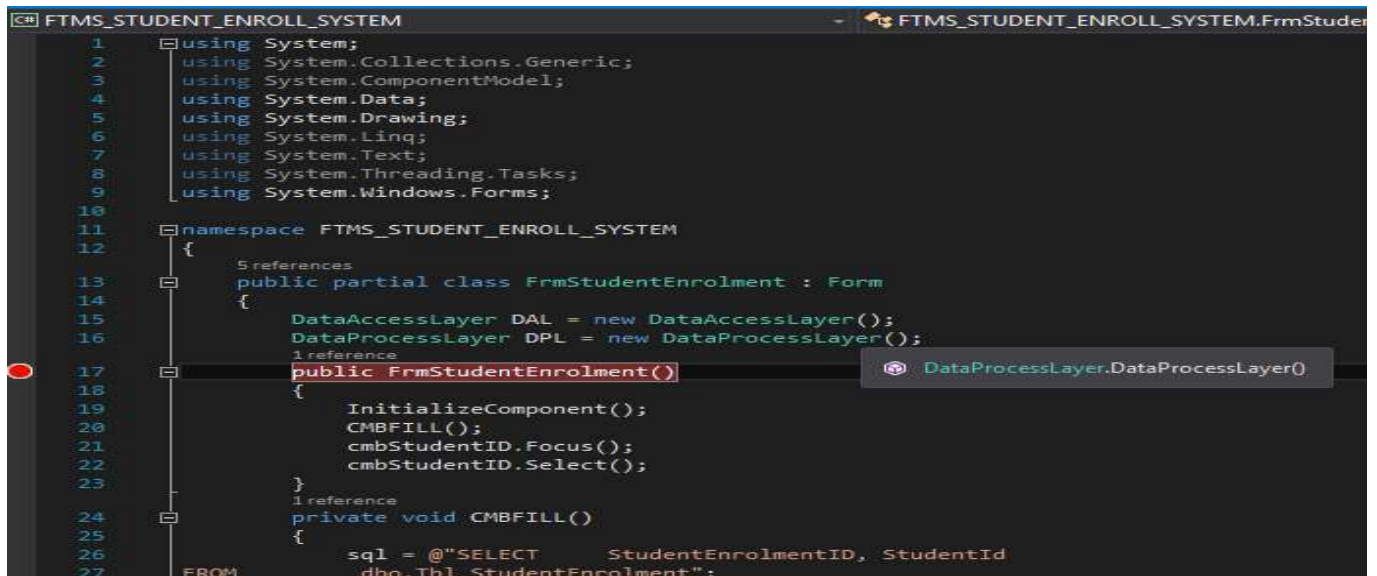


6.1 DEBUGGING

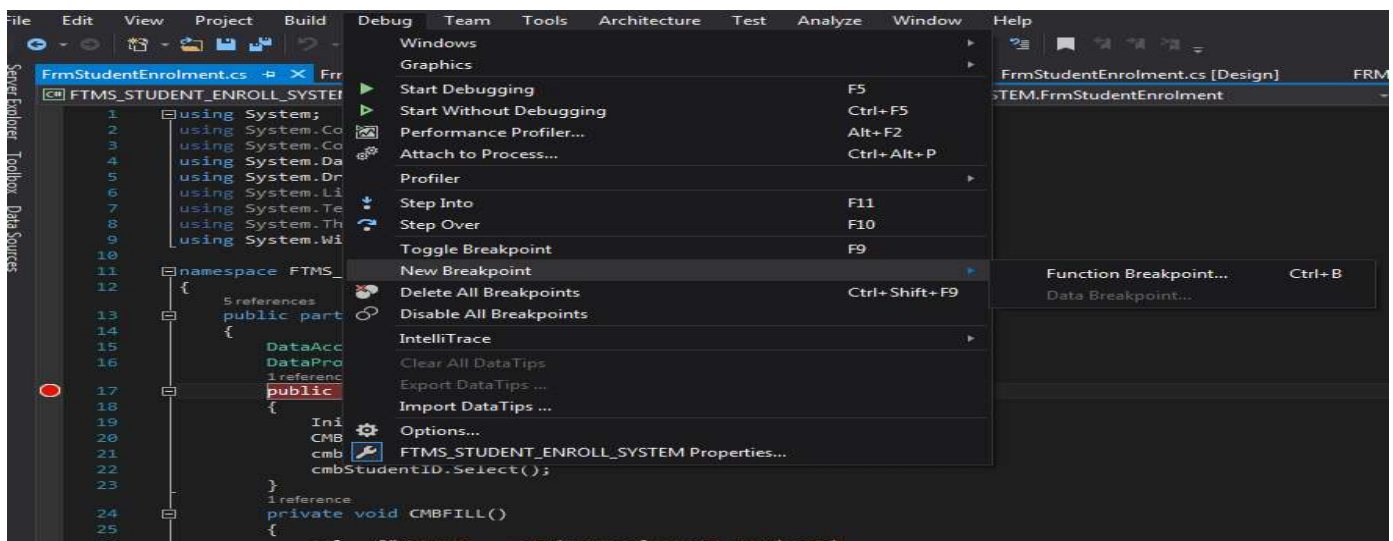
consistent with (Vogel, 2013), Debugging allows you to run a program interactively while looking the source code and the variables at some point of the execution in this phase student Enrollment is going to be debugged. The breakpoint or watch point will help analyses the values of variables.

6.2. BREAKPOINT

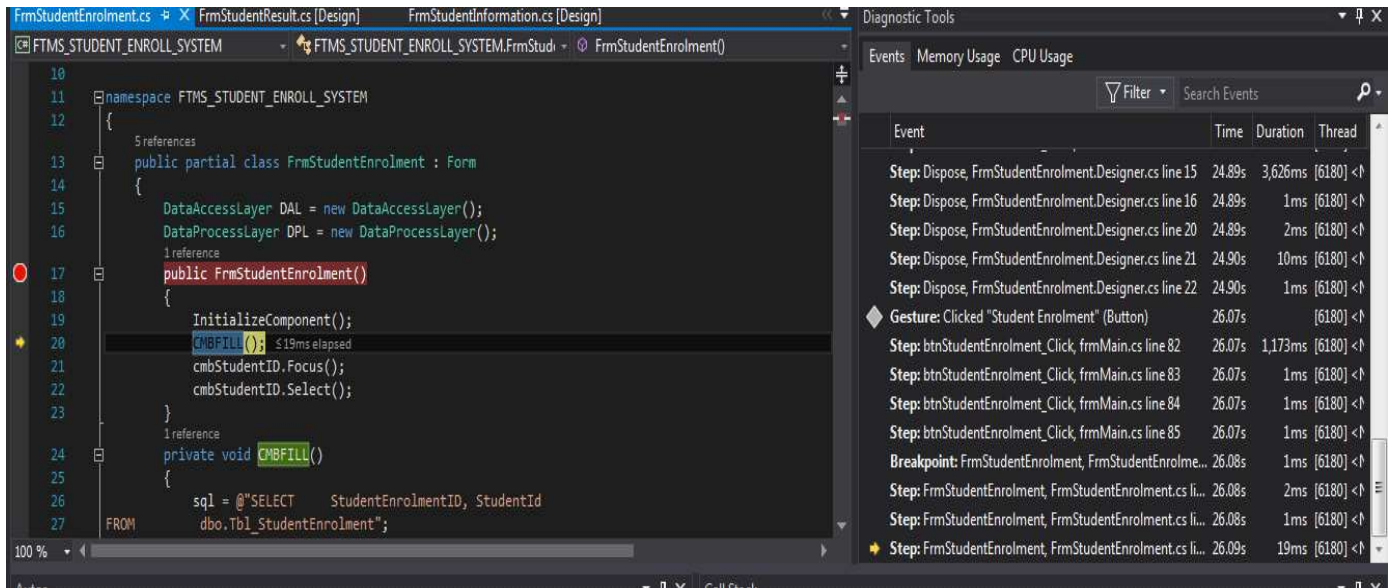
The subsequent photo indicates a breakpoint special on-line 17. by means of breakpoints within the supply code you specify wherein the execution of this system must forestall (Vogel, 2013).



Now that a break factor has been distinct we can now debug the C# document as follows:



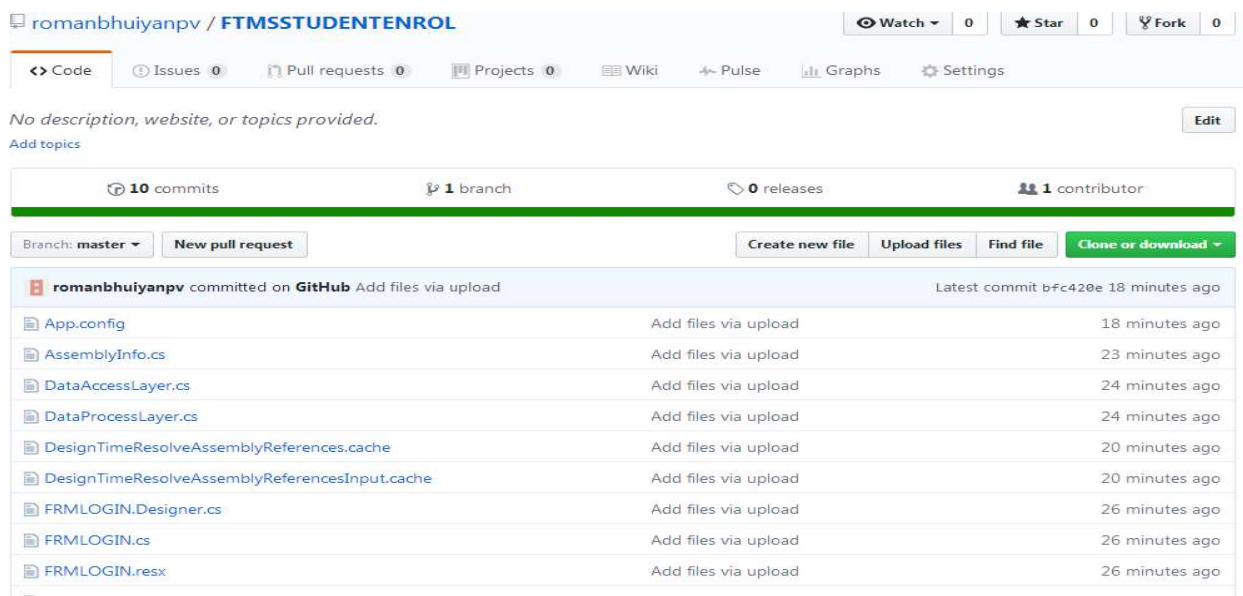
once the debug in running we will use the gadget as regular, whilst the breakpoint targeted is reached the program will prevent giving us the cutting-edge values of variables.



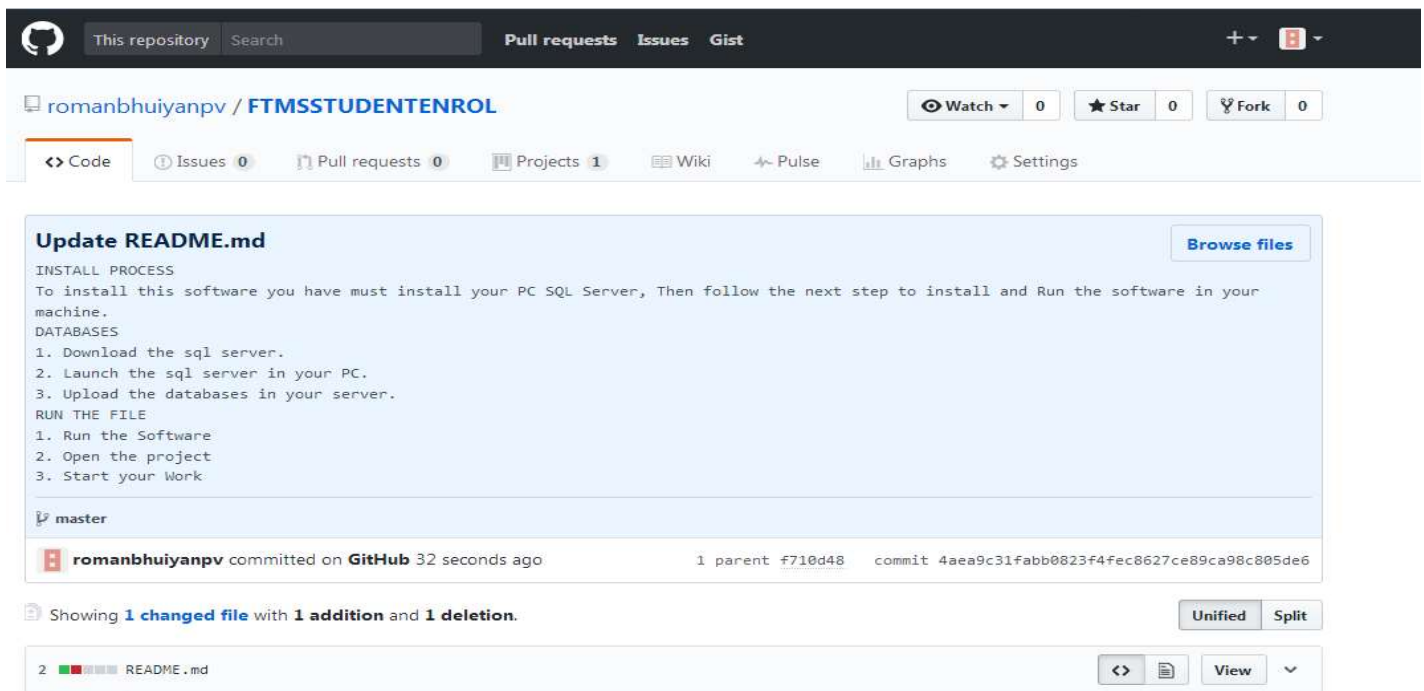
6.3. VERSION CONTROL

This is the link for version control on github

<https://github.com/romanbhuiyanpv/FTMSSTUDENTENROL>



6.4. README FILE



6.5.SOURCE TREE

For source tree I am using a source tree software and I upload my system as well as create some commit. I have attached some screen short below:

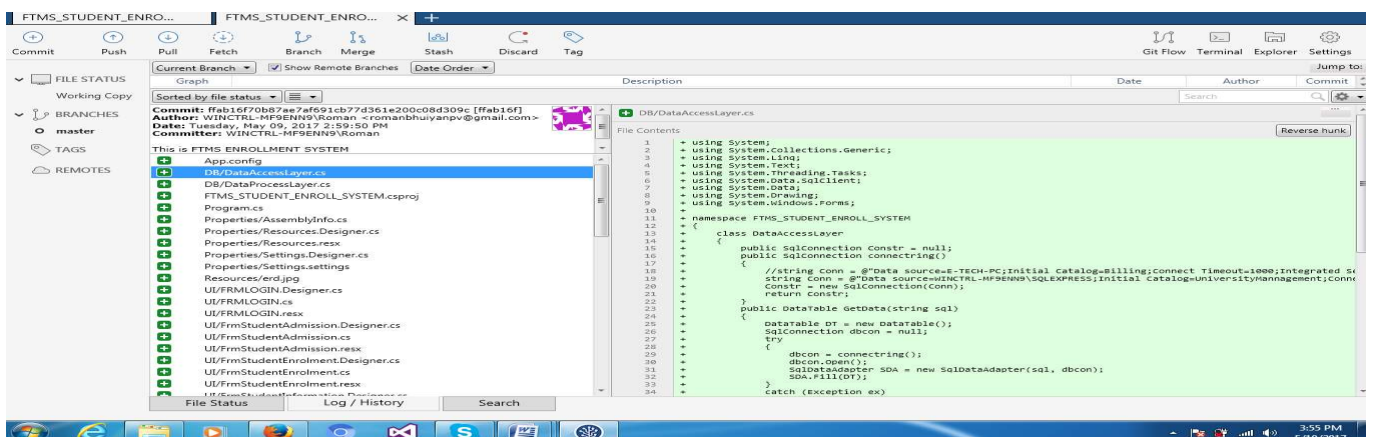


Fig: Data Base

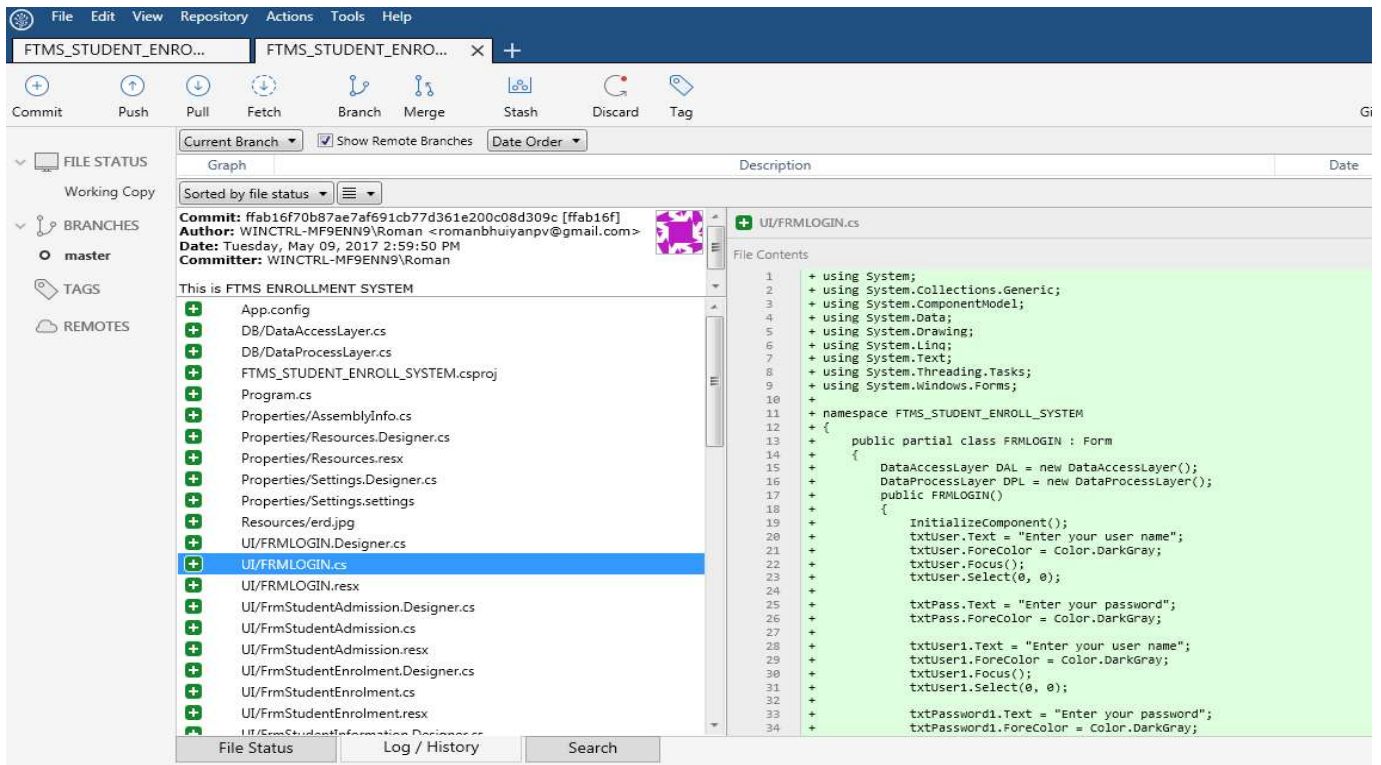


Fig: Login

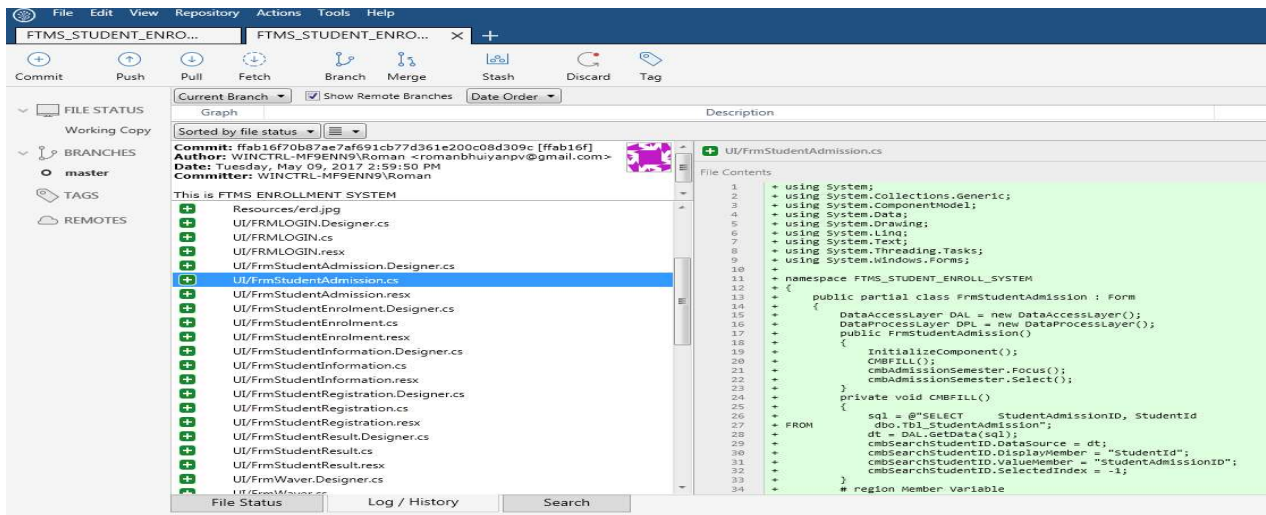


Fig: Student Admission

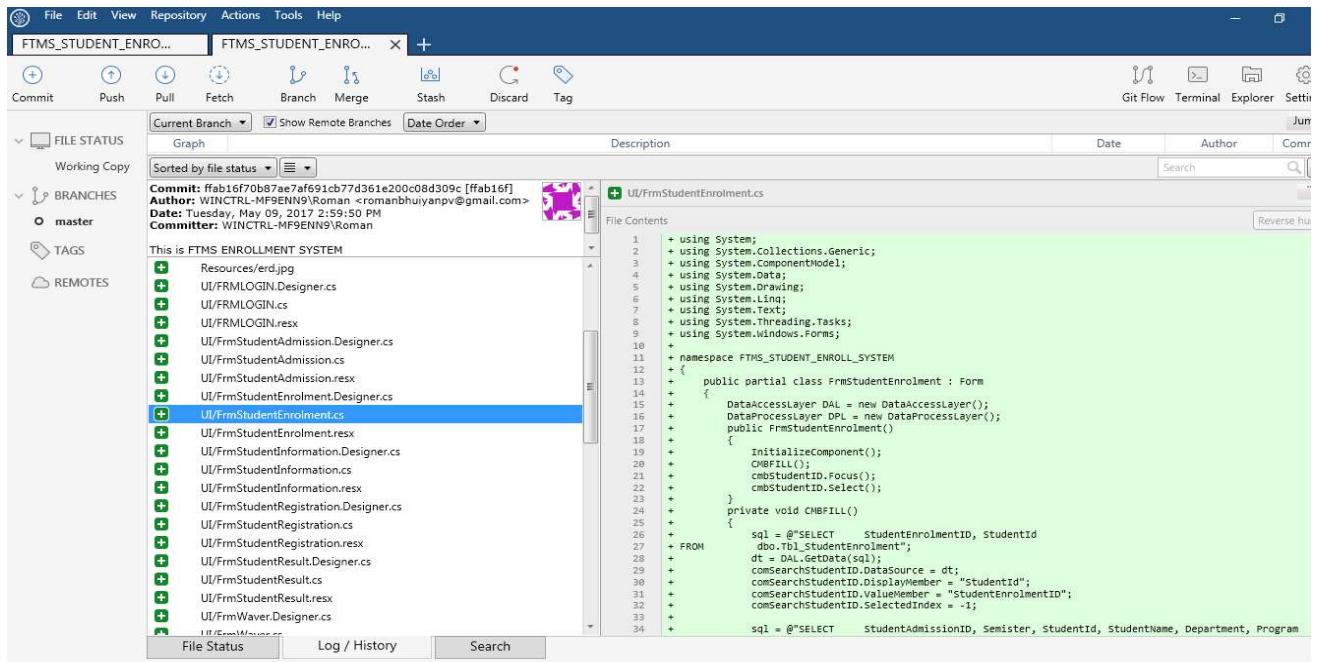


Fig: Student Enroll

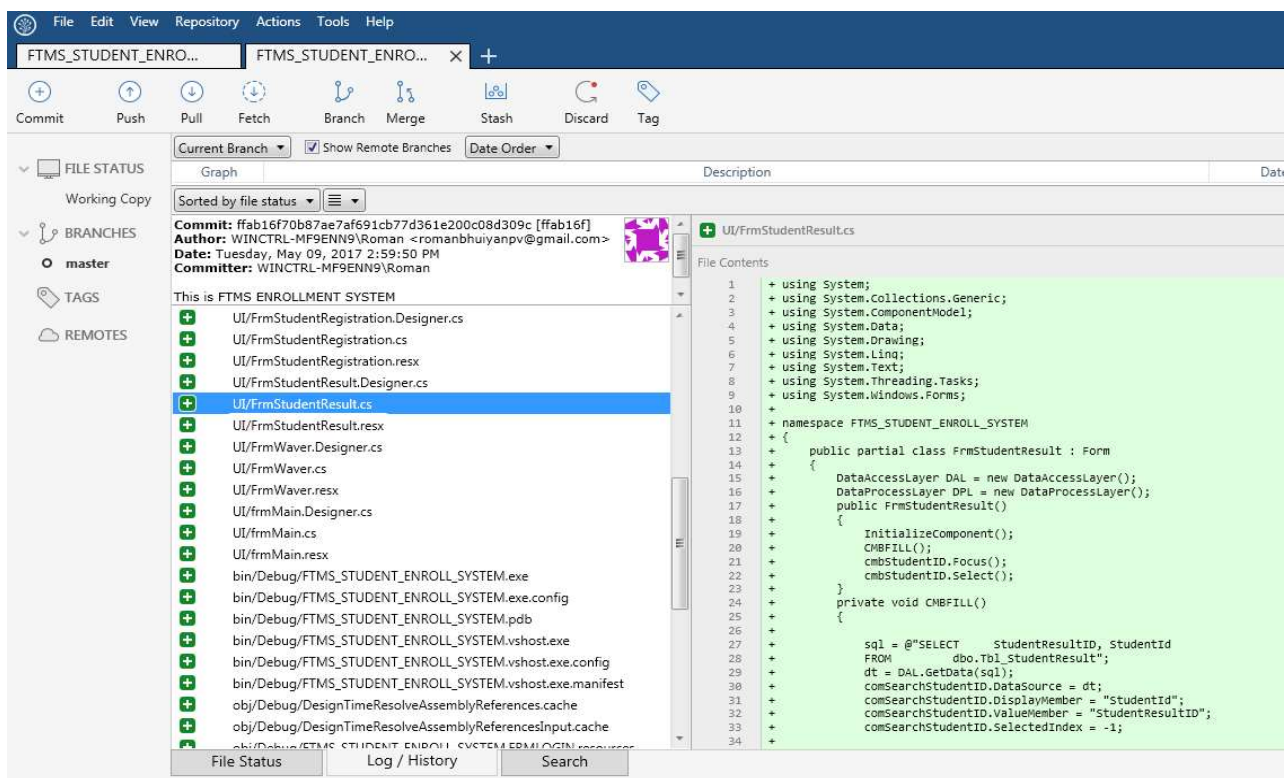


Fig: Student Result

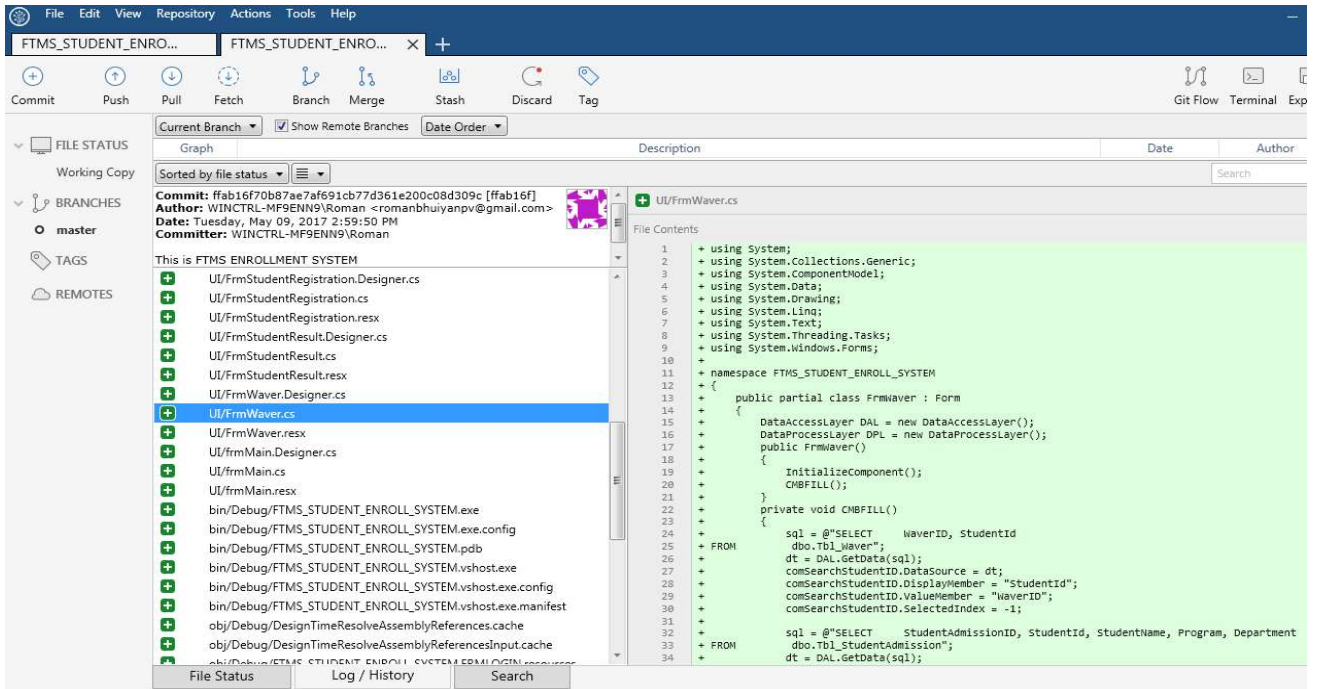


Fig: Waver

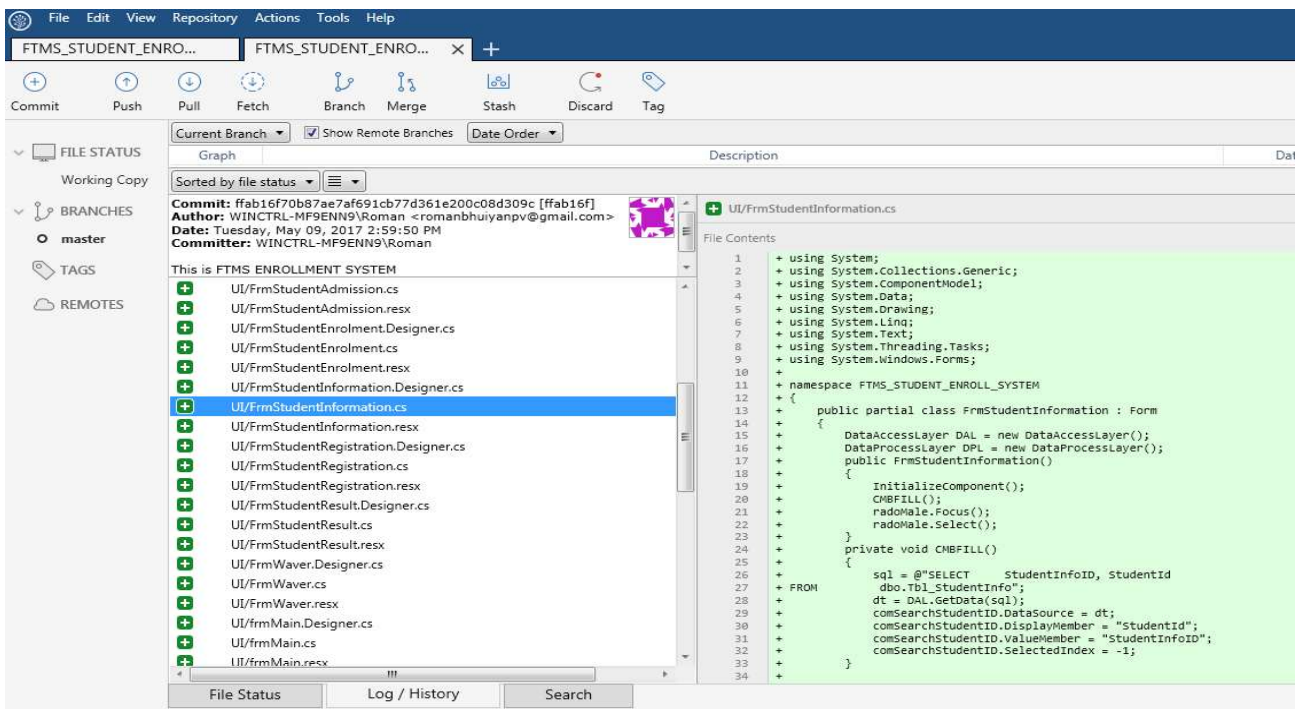


Fig: Student Information

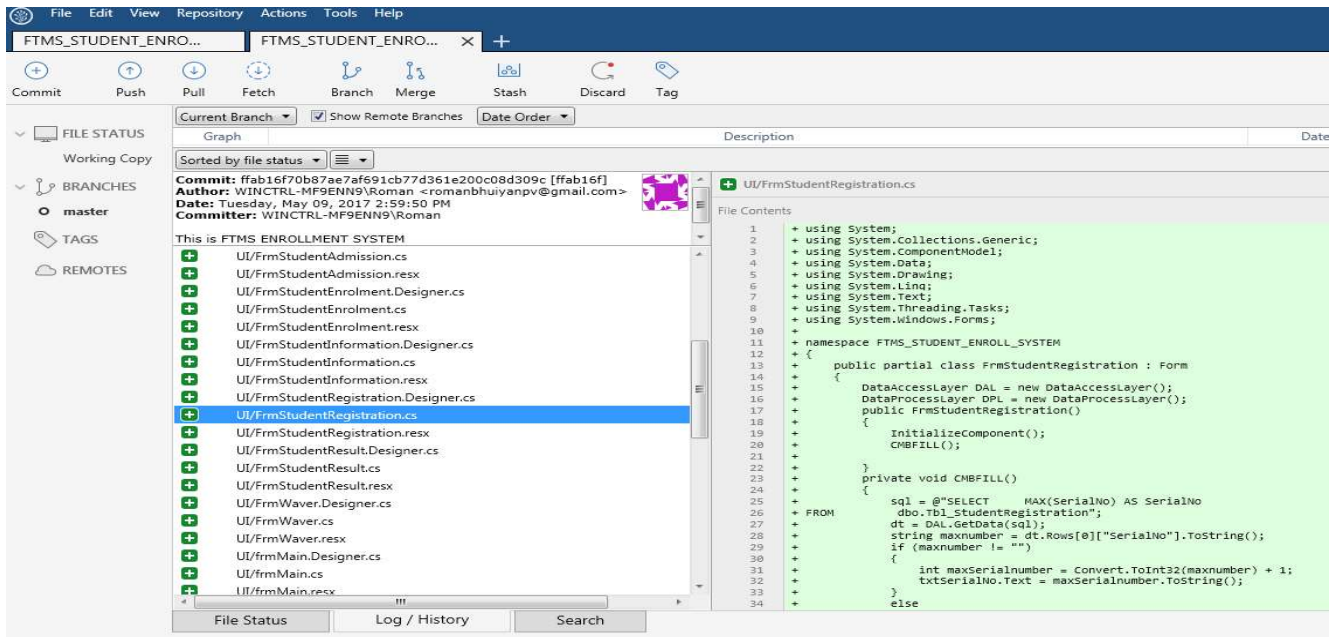


Fig: Student Registration

7.1. STANDARD CODING

(Mytton, 2004) stated in his article that pleasant programs are coded properly. He then went on to give an explanation for that “well” does not only mean the code does its task, however it is also smooth to keep, upload to and debug. Coding requirements record what developers should do at the same time as writing there code. in preference to following character ways of coding all builders will follow a standard way. other builders who appearance t the code recognize what to expect through the whole utility (Mytton, 2004).

7.2. COMMENTING

it is very fundamental to comment on code. (Mytton, 2004) stated that searching through unfamiliar code is a whole lot less complicated if it's miles laid out properly and the entirety is well commented with details that specify any complicated constructs and the reasoning at the back of them. beneath is an example of commented code for the Ftms Student Enrollment System. The “//” characters are used for line feedback in C# and that they were used throughout the undertaking to provide an explanation for blocks of code.


```

FTMS_STUDENT_ENROLL_SYSTEM
FTMS_STUDENT_ENROLL_SYSTEM.DataAccessLayer
connecting()

1  using System;
2  using System.Collections.Generic;
3  using System.Linq;
4  using System.Text;
5  using System.Threading.Tasks;
6  using System.Data.SqlClient;
7  using System.Data;
8  using System.Drawing;
9  using System.Windows.Forms;
10
11 namespace FTMS_STUDENT_ENROLL_SYSTEM
12 {
13     15 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
14     class DataAccessLayer
15     {
16         public SqlConnection Constr = null;
17         2 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
18         public SqlConnection connecting()
19         {
20             //DataBase Connection
21             //string Conn = @"Data source=E-TECH-PC;Initial Catalog=Billing;Connect Timeout=1000;Integra
22             string Conn = @"Data source=WINCTRL-MF9ENN9\SQLEXPRESS;Initial Catalog=UniversityMannagement
23             Constr = new SqlConnection(Conn);
24             return Constr;
25         }
26     }
27     45 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
28     public DataTable GetData(string sql)

```

7.3. VARIABLES AND FUNCTIONS

Variables and functions have to be named continually at some stage in the code. They must additionally be named in step with the feature they're performing. They ought to in brief describe the facts they comprise (Mytton, 2004). The picture under shows variables declared in keeping with the records they contain.

```

772
773     2 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
774     private void numCredit8_KeyDown(object sender, KeyEventArgs e)
775     {
776         if (e.KeyCode.ToString() == "Return")
777         {
778             decimal credit1 = Convert.ToDecimal(numCredit1.Value);
779             decimal credit2 = Convert.ToDecimal(numCredit2.Value);
780             decimal credit3 = Convert.ToDecimal(numCredit3.Value);
781             decimal credit4 = Convert.ToDecimal(numCredit4.Value);
782             decimal credit5 = Convert.ToDecimal(numCredit5.Value);
783             decimal credit6 = Convert.ToDecimal(numCredit6.Value);
784             decimal credit7 = Convert.ToDecimal(numCredit7.Value);
785             decimal credit8 = Convert.ToDecimal(numCredit8.Value);
786             decimal obtainGPA1 = Convert.ToDecimal(numObtainedGPA1.Value);
787             decimal obtainGPA2 = Convert.ToDecimal(numObtainedGPA2.Value);
788             decimal obtainGPA3 = Convert.ToDecimal(numObtainedGPA3.Value);
789             decimal obtainGPA4 = Convert.ToDecimal(numObtainedGPA4.Value);
790             decimal obtainGPA5 = Convert.ToDecimal(numObtainedGPA5.Value);
791             decimal obtainGPA6 = Convert.ToDecimal(numObtainedGPA6.Value);
792             decimal obtainGPA7 = Convert.ToDecimal(numObtainedGPA7.Value);
793             decimal obtainGPA8 = Convert.ToDecimal(numObtainGPA8.Value);
794             decimal SGPA = (((credit1 * obtainGPA1) + (credit2 * obtainGPA2) + (credit3 * obtainGPA3) +
795             txtSGPA.Text = SGPA.ToString();
796             txtSGPA.Focus();
797             txtSGPA.Select();

```


3. UI CODES

```

FRMLOGIN.cs  X  FRMLOGIN.cs [Design]  DataProcessLayer.cs  FrmStudentResult.cs  Frm
FTMS_STUDENT_ENROLL_SYSTEM  FTMS_STUDENT_ENROLL_SYSTEM.FRMLOGIN

4  using System.Data;
5  using System.Drawing;
6  using System.Linq;
7  using System.Text;
8  using System.Threading.Tasks;
9  using System.Windows.Forms;
10
11  namespace FTMS_STUDENT_ENROLL_SYSTEM
12  {
13      3 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
14      public partial class FRMLOGIN : Form
15      {
16          DataAccessLayer DAL = new DataAccessLayer();
17          DataProcessLayer DPL = new DataProcessLayer();
18          1 reference | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
19          public FRMLOGIN()
20          {
21              InitializeComponent();
22              txtUser.Text = "Enter your user name";
23              txtUser.ForeColor = Color.DarkGray;
24              txtUser.Focus();
25              txtUser.Select(0, 0);
26
27              txtPass.Text = "Enter your password";
28              txtP
29              (field) TextBox FRMLOGIN.txtUser
30              txtUser1.Text = "Enter your user name";
31              txtUser1.ForeColor = Color.DarkGray;
32              txtUser1.Focus();
33              txtUser1.Select(0, 0);
34
35              txtPassword1.Text = "Enter your password";
36              txtPassword1.ForeColor = Color.DarkGray;
37
38          }
39      }

```

Fig: Login Codes

```

12 {
13     2 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
14     public partial class FrmStudentAdmission : Form
15     {
16         DataAccessLayer DAL = new DataAccessLayer();
17         DataProcessLayer DPL = new DataProcessLayer();
18         0 references | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
19         public FrmStudentAdmission()
20         {
21             InitializeComponent();
22             CMBFILL();
23             cmbAdmissionSemester.Focus();
24             cmbAdmissionSemester.Select();
25         }
26         1 reference | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change
27         private void CMBFILL()
28         {
29             sql = @"SELECT      StudentAdmissionID, StudentId
30             FROM              dbo.Tbl_StudentAdmission";
31             dt = DAL.GetData(sql);
32             cmbSearchStudentID.DataSource = dt;
33             cmbSearchStudentID.DisplayMember = "StudentId";
34             cmbSearchStudentID.ValueMember = "StudentAdmissionID";
35             cmbSearchStudentID.SelectedIndex = -1;
36         }
37         # region Member Variable
38         string sql = "";
39         string save = "";
40         int StudentAdmissionID = 0;
41         string StudentId = "";
42         DataTable dt = null;
43         # endregion
44         1 reference | WINCTRL-MF9ENN9\Roman, 1 day ago | 1 author, 1 change

```

Fig: Student Admission Codes

```

29 comSearchStudentID.DisplayMember = "StudentId";
30 comSearchStudentID.ValueMember = "WaverID";
31 comSearchStudentID.SelectedIndex = -1;
32 sql = @"SELECT      StudentAdmissionID, StudentId, StudentName, Program, Department
33 FROM              dbo.Tbl_StudentAdmission";
34 dt = DAL.GetData(sql);
35 cmbStudentID.DataSource = dt;
36 cmbStudentID.DisplayMember = "StudentId";
37 cmbStudentID.ValueMember = "StudentAdmissionID";
38 cmbStudentID.SelectedIndex = -1;
39 cmbStudentName.DataSource = dt;
40 cmbStudentName.DisplayMember = "StudentName";
41 cmbStudentName.ValueMember = "StudentAdmissionID";
42 cmbProgram.DataSource = dt;
43 cmbProgram.DisplayMember = "Program";
44 cmbProgram.ValueMember = "StudentAdmissionID";
45 cmbDepartment.DataSource = dt;
46 cmbDepartment.DisplayMember = "Department";
47 cmbDepartment.ValueMember = "StudentAdmissionID";
48
49 sql = @"SELECT      StudentRegistrationID, StudentId, Batch, RegNo, Campus
50 FROM              dbo.Tbl_StudentRegistration";
51 dt = DAL.GetData(sql);
52 cmbStudentID.DataSource = dt;
53 cmbStudentID.DisplayMember = "StudentId";
54 cmbStudentID.ValueMember = "StudentRegistrationID";
55 cmbBatch.DataSource = dt;
56 cmbBatch.DisplayMember = "Batch";
57 cmbBatch.ValueMember = "StudentRegistrationID";
58 cmbRegNo.DataSource = dt;
59 cmbRegNo.DisplayMember = "RegNo";
60 cmbRegNo.ValueMember = "StudentRegistrationID";

```

Fig: Student Waver Codes

CONCLUSION

Technology has given us plenty of advantages which can be used for special work and its make a existence simpler also shop an awful lot money and time. the ability of internet has changed the customers' thoughts and now they can engage with the financial institution without difficulty and can do any form of the transaction. This device is greater flexible with college students and may display all the admission facts. It has more demand within the destiny to shop the money in every students.

REFERENCE

- [1] Mytton, D. (2004). Why You Need Coding Standards. [online] SitePoint. Available at: <http://www.sitepoint.com/coding-standards/> [Accessed 22 Apr. 2016].
- [2] Visual-paradigm.com. (n.d.). Class Diagram - UML Diagrams - Unified Modeling Language Tool. [online] Available at: <https://www.visual-paradigm.com/VPGallery/diagrams/Class.html> [Accessed 15 Apr. 2016].
- [3] Harris, Owen; Henderson, David; Kalokerinos, Nick; Mintoff, Joe; and Nolan, Peter, Student enrolment system, Department of Computing Science, University of Wollongong, Working Paper 85-17, 1985, 137p. <http://ro.uow.edu.au/compsciwp/58>.
- [4] http://dspace.ewubd.edu/bitstream/handle/123456789/2095/Tito_Chakrabarty.pdf?sequence=1